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=> d his

     (FILE 'HOME' ENTERED AT 16:36:41 ON 03 MAR 2002)

     FILE 'REGISTRY' ENTERED AT 16:38:24 ON 03 MAR 2002
               ACT SCH366P/A
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L1             STR
L2             SCR 2040 AND 1992 AND 2016
L3          2400 SEA FILE=REGISTRY SSS FUL L1 AND L2
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     FILE 'HCAPLUS' ENTERED AT 16:38:59 ON 03 MAR 2002
L4         16989 S L3
L5          2075 S (IMAGING OR CONTRAST)(L)(LIPOSOM?)
L6           359 S L4 AND L5
L7        167694 S ?CHOLESTEROL? OR ?STEROL?
L8           140 S L6 AND L7
L9        284362 S DIACETYL(W)PHOSPHAT? OR PALMIT? OR STEAR? OR PHOSPHOLIPID OR
L10           91 S L8 AND L9
L11       153212 S IDONIE OR GADOLINIUM OR MAGNETITE OR FLUORINE OR IOPROMIDE OR
L12           13 S L10 AND L11
L13            0 S L12 AND (GENE OR GENETIC OR DNA OR NUCLEIC OR RNA OR ?NUCLEOT
L14            6 S L10 AND (GENE OR GENETIC OR DNA OR NUCLEIC OR RNA OR ?NUCLEOT
L15           13 S L12 NOT L14
L16      1390686 S GENE OR GENETIC OR DNA OR NUCLEIC OR RNA OR ?NUCLEOTID? OR RI
L17          670 S L4 AND L16
L18       262645 S IMAGING OR CONTRAST AGENT OR L11
L19           38 S L17 AND L18
L20        54235 S ?LIPOSOM? OR ?VESCILE? OR SUV OR MLV OR REV OR LUV
L21           21 S L19 AND L20
L22           21 S L21 NOT L12
L23       167694 S ?CHOLESTEROL? OR ?STEROL?
L24            8 S L22 AND L23
L25           13 S L22 NOT L24
L26       154057 S (L11 OR IODINE) (P)L18
L27         1182 S L16(L)L26
L28            2 S EMBOLI!ATION SYSTEM
               SELECT RN L28 1-2

     FILE 'REGISTRY' ENTERED AT 17:20:35 ON 03 MAR 2002
L29           31 S E1-31

     FILE 'HCAPLUS' ENTERED AT 17:20:45 ON 03 MAR 2002
L30            2 S L28 AND L29
L31       348817 S L29
L32         2122 S L31 AND GENE THERAPY
L33           59 S L32 AND L4
L34            1 S L33 AND (GELATIN OR STARCH)
L35           40 S L33 AND  (L23 OR ?STEROID?)
L36            3 S L33 AND L18
L37           10 S L33 AND (MPEG OR PEG)
L38       186499 S CHARGED(3A) LIPID OR STEARATE OR PALMITATE OR DIACETYL OR PHO
L39           17 S L33 AND L38
L40           23 S (L34 OR L36 OR L37 OR L39) NOT (L30 OR L22 OR L12)
L41        45904 S L18 AND L31
L42          373 S L41 AND (STARCH OR GELATIN)
L43           37 S L42 AND (L23 OR ?STEROID?)
L44            6 S L43 AND L20
L45            3 S L44 NOT (L40 OR (L30 OR L22 OR L12))
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2400 cpds from full file search

16,989 cites for L3 cpds

16 cites

13 cites

8 cites

13 cites

applicant's work

← compounds from applicants citations

2 cites (applicant's work)

348817 cites for L29 cpds

23 cites by combining applicant's cpds (L29) w/ key terms

3 cites

L46 / 4 S L6 AND (STARCH OR GELATIN) 4 cites

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=> d que l4
L1                STR
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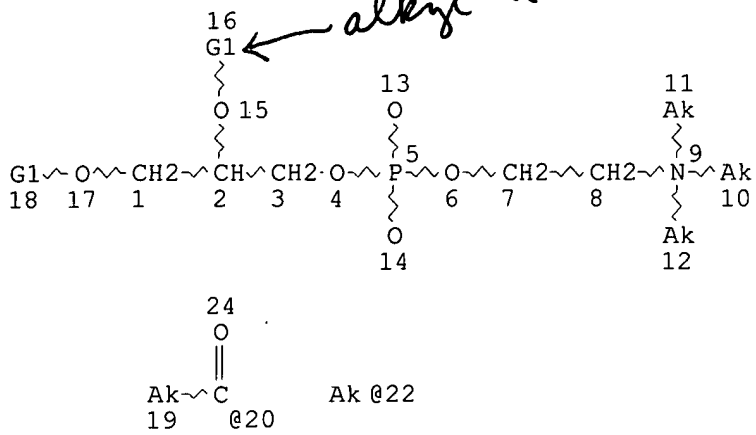

alkyl or O-alkyl

this is a pretty common phospholipid STR

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VAR G1=20/22
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CONNECT IS E1  RC AT  11
CONNECT IS E1  RC AT  12
CONNECT IS E1  RC AT  19
CONNECT IS E1  RC AT  22
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
ECOUNT  IS M8 C  AT  19
ECOUNT  IS M8 C  AT  22

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  22

STEREO ATTRIBUTES: NONE
L2                SCR 2040 AND 1992 AND 2016
L3          2400 SEA FILE=REGISTRY SSS FUL L1 AND L2
L4         16989 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L3
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=> d ibib abs hitstr 1

L14 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:604601 HCAPLUS
DOCUMENT NUMBER: 129:235651
TITLE: Multivesicular liposomes having a biologically active substance encapsulated therein in the presence of a hydrochloride
INVENTOR(S): Kim, Sinil; Howell, Stephen B.
PATENT ASSIGNEE(S): Depotech Corporation, USA
SOURCE: U.S., 12 pp. Cont.-in-part of U.S. Ser. No. 352,342, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5807572	A	19980915	US 1995-473019	19950606
US 6071534	A	20000606	US 1998-19337	19980205

PRIORITY APPLN. INFO.:
US 1988-151553 B2 19880218
US 1990-563365 B2 19900806
US 1991-709744 B1 19910603
US 1993-20483 B1 19930223
US 1994-352342 B2 19941207
US 1995-473019 A3 19950606

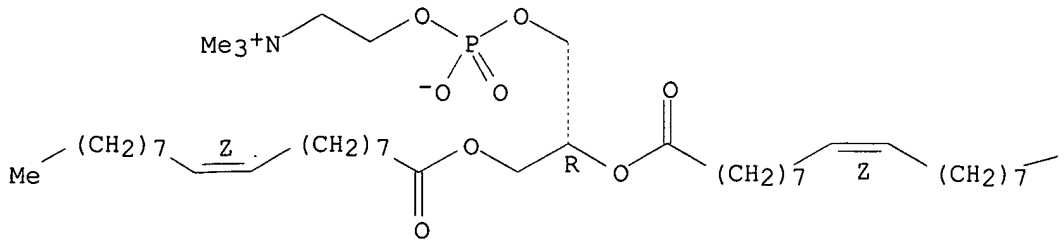
AB Disclosed are multivesicular **liposomes** contg. biol. active substances, the multivesicular **liposomes** having defined size distribution, adjustable av. size, adjustable internal chamber size and no., and a modulated rate of the biol. active substance in **contrast** to the previous art. The process comprises dissolving a lipid component in volatile org. solvents, adding an immiscible aq. component contg. at least one biol. active substance to be encapsulated, and adding to either or both the org. solvents and the lipid component, a hydrochloride effective to control the release rate of the biol. active substance from the multivesicular **liposome**, making a water-in-oil emulsion from the two components, immersing the emulsion into a second aq. component, dividing the emulsion into small solvent spherules which contain even smaller aq. chambers, and then removing the solvents to give an aq. suspension of multivesicular **liposomes** encapsulating biol. active substances. Multivesicular **liposomes** with encapsulation of 59% cytarabine (I) contg. hydrochloric acid (II) were prepd. Percentage of retained I at 24 h was 93% in **contrast** to 52% when II was not used.

IT **4235-95-4**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(multivesicular liposomes having biol. active substance encapsulated therein in presence of hydrochloride)

RN 4235-95-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (7R,18Z)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

Me

=> d ind 1

L14 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2002 ACS
IC ICM A61K009-127
NCL 424450000
CC 63-6 (Pharmaceuticals)
ST multivesicular pharmaceutical liposome hydrochloride cytarabine
IT Liposomes (drug delivery systems)
(multilamellar; multivesicular liposomes having biol. active substance encapsulated therein in presence of hydrochloride)
IT Agitation (mechanical)
Analgesics
Anesthetics
Antianginal agents
Antiarrhythmic drugs
Antiasthmatics
Antibiotics
Antidiabetic agents
Antihypertensives
Antihypotensives
Antitumor agents
Antiviral agents
Evaporation
Fungicides
Herbicides
Hypnotics and Sedatives
Immunomodulators
Organic solvents
Pesticides
Sound and Ultrasound
Tranquilizers
Vaccines
(multivesicular liposomes having biol. active substance encapsulated therein in presence of hydrochloride)
IT Antibodies

Cardiac glycosides
Cardiolipins
Diglycerides
Esters, biological studies
Ethers, biological studies
Glycerides, biological studies
Hormones (animal), biological studies
Hydrocarbons, biological studies
Interferon .alpha.
Interleukin 2
Lipids, biological studies
Lysophosphatidylcholines
Neurotransmitters
Nucleic acids
Peptides, biological studies
Phosphatidic acids
Phosphatidylcholines, biological studies
Phosphatidylethanolamines, biological studies
Phosphatidylglycerols
Phosphatidylinositols
Phosphatidylserines
Phospholipids, biological studies
Proteins (general), biological studies
Radionuclides
Sphingomyelins
Steroids, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(multivesicular liposomes having biol. active substance encapsulated therein in presence of hydrochloride)

IT Atomizing (spraying)
(nozzle; multivesicular liposomes having biol. active substance encapsulated therein in presence of hydrochloride)

IT **Sterols**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(plant; multivesicular liposomes having biol. active substance encapsulated therein in presence of hydrochloride)

IT Hepatitis B virus
(vaccine; multivesicular liposomes having biol. active substance encapsulated therein in presence of hydrochloride)

IT 57-27-2, Morphine., biological studies 57-55-6D, Propylene glycol, esters 57-88-5, **Cholesterol**, biological studies 59-05-2, Methotrexate. 60-01-5, Tributyrin 122-32-7, Triolein 124-07-2, Caprylic acid., biological studies 124-30-1, **Stearylamine**, 147-94-4, Cytarabine. 334-48-5, Capric acid 466-99-9, Hydromorphone. 537-40-6, Trilinolein 538-23-8, Tricaprylin 538-24-9, Trilaurin 621-70-5, Tricaproin 621-71-6, Tricaprin 628-13-7, Pyridine hydrochloride 645-35-2, Histidine hydrochloride 657-27-2, Lysine hydrochloride 926-63-6D, diacyl derivs. 1119-34-2, Arginine hydrochloride **4235-95-4** 4537-77-3, Dipalmitoyl phosphatidylglycerol 7647-01-0, Hydrochloric acid, biological studies 9004-10-8, Insulin, biological studies 20064-29-3D, diacyl derivs. 20246-55-3, Tripalmitolein 25637-84-7, Diolein 26657-95-4 37517-28-5, Amikacin. 53714-56-0, Leuprolide. 83869-56-1, Granulocyte-macrophage colony stimulating factor. 99483-10-0, Trimyristolein 143011-72-7, Granulocyte colony stimulating factor
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(multivesicular liposomes having biol. active substance encapsulated therein in presence of hydrochloride)

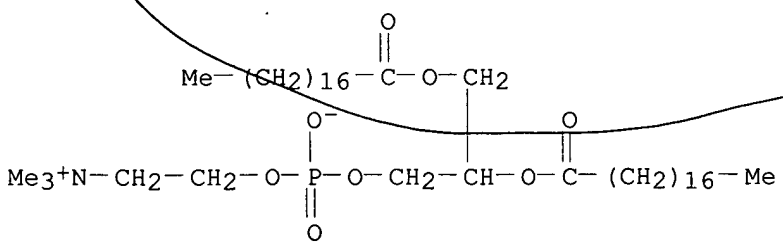
=> d ibib abs hitstr 2

L14 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:710669 HCAPLUS
DOCUMENT NUMBER: 128:39444
TITLE: Growth inhibitory effects of liposome-associated 1-O-octadecyl-2-O-methyl-sn-glycero-3-phosphocholine
AUTHOR(S): Peters, Andrew C.; Ahmad, Imran; Janoff, Andrew S.; Pushkareva, Marina Y.; Mayhew, Eric
CORPORATE SOURCE: The Liposome Company, Inc., Princeton, NJ, 08540, USA
SOURCE: Lipids (1997), 32(10), 1045-1054
CODEN: LPDSAP; ISSN: 0024-4201
PUBLISHER: AOCS Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The growth inhibitory effects of 1-O-octadecyl-2-O-methyl-sn-glycero-3-phosphocholine (ET-18-OCH3) and various **liposome** compns. of ET-18-OCH3 were compared in a standardized growth inhibition assay utilizing a diverse tumor cell line panel including cell lines expressing multidrug resistance. ET-18-OCH3 and ELL-12 (dioleoylphosphatidylcholine/**cholesterol**/dioleoylphosphatidylethanolamine-glutaric acid/ET-18-OCH3, 4:3:1:2), an optimal **liposomal** ET-18-OCH3 formulation, inhibited growth in the micromolar range in drug-sensitive and -resistant cells. In general, ET-18-OCH3-**liposomes** were about twofold less growth inhibitory than ET-18-OCH3. However, the known hemolytic effects of ET-18-OCH3 were greatly reduced, up to 20 or more times, by **liposome** assocn. The effects of ET-18-OCH3 and ELL-12 were compared in intracellular [Ca2+] modulation and **DNA** fragmentation assays. ET-18-OCH3 elicited both concn.- and serum-dependent transient and permanent increases in intracellular [Ca2+]. In **contrast**, ELL-12 did not modulate intracellular [Ca2+]. ET-18-OCH3 and ELL-12 similarly affected **DNA** fragmentation, which may be indicative of apoptosis. The results suggest that, although the specific growth inhibitory effects of ET-18-OCH3 and ELL-12 are similar, assocg. ET-18-OCH3 with stable well-characterized **liposomes** eliminates nonspecific cell membrane-assocd. lytic effects.

IT **4539-70-2**, Distearoylphosphatidylcholine **68737-67-7**, Dioleoylphosphatidylcholine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(growth inhibitory effects of liposome-assocd. 1-O-octadecyl-2-O-methyl-sn-glycero-3-phosphocholine)

RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)

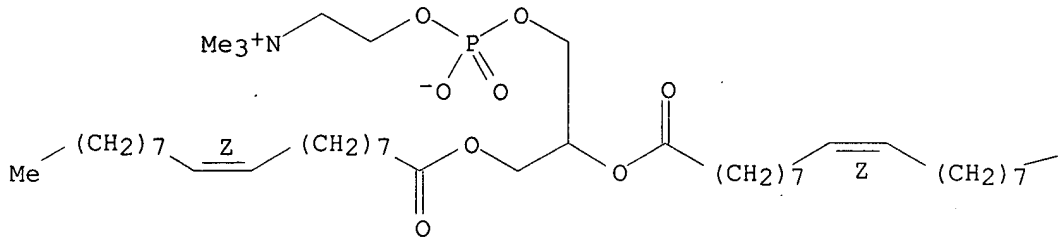


RN 68737-67-7 HCAPLUS

CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (18Z)-(9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

Me

=> d ibib abs hitstr 3

L14 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:457946 HCAPLUS
DOCUMENT NUMBER: 127:187139
TITLE: The carboxyl-terminal hydrophobic residues of apolipoprotein A-I affect its rate of **phospholipid** binding and its association with high density lipoprotein
AUTHOR(S): Laccotripe, Maria; Makrides, Savvas C.; Jonas, Ana; Zannis, Vassilis I.
CORPORATE SOURCE: Section Mol. Genet., Cent. Adv. Biomed. Res., Dep. Med. Biochem., Boston Univ. Med. Cent., Boston, MA, 02118-2394, USA
SOURCE: J. Biol. Chem. (1997), 272(28), 17511-17522
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We performed a series of mutations in the human apo-lipoprotein A-I (apoA-I) **gene** designed to alter specific amino acid residues and domains implicated in lecithin:**cholesterol** acyltransferase (LCAT) activation or lipid binding. We used the mutant apoA-I forms to establish nine stable cell lines, and developed strategies for the large scale prodn. and purifn. of the mutated apoA-I proteins from conditioned media. HDL and dimyristoyl phosphatidylcholine binding assays using the variant apoA-I forms have shown that replacement of specific carboxyl-terminal hydrophobic residues Leu222, Phe225, and Phe229 with lysines, as well as replacement of Leu211, Leu214, Leu218, and Leu219 with valines, diminished the ability of apoA-I to bind to HDL and to lyse dimyristoyl phosphatidylcholine **liposomes**. The findings indicate that Leu222, Phe225, and Phe229 located in the putative random coil region, and Leu211, Leu214, Leu218, and Leu219 located in the putative helix 8, are important for lipid binding. In **contrast**, substitutions of alanines for specific charged residues in putative helixes 7, 8, or 9 as well as various point mutations in other regions of apoA-I, did not affect the ability of the variant apoA-I forms to bind to HDL or to lyse dimyristoyl phosphatidylcholine **liposomes**. Crosslinking expts. confirmed that the carboxyl-terminal domain of apoA-I participates in the self-assocn. of the protein, as demonstrated by the inability of the carboxyl-terminal deletion mutants .DELTA.185-243 and .DELTA.209-243 to form higher order aggregates in soln. Lecithin: **cholesterol** acyltransferase anal., using reconstituted HDL particles prepd. by the sodium cholate dialysis method, has shown that mutants (Pro165.fwdarw.Ala,Gln173.fwdarw.Glu) (Leu311.fwdarw.Val,Leu214.fwdarw.Val,Leu318.fwdarw.Val,Leu319.fwdarw.Val), (Leu222.fwdarw.Lys,Phe255.fwdarw.Lys,Phe290.fwdarw.Lys) and .DELTA.309-243 reduced LCAT activation (38-68%). Mutant (Glu191.fwdarw.Ala,His195.fwdarw .Ala,Lys196.fwdarw.Ala) enhanced LCAT activation (131%), and mutant (Ala162.fwdarw.Leu,Leu189.fwdarw.Trp) exhibited normal LCAT activation as compared with the wild type proapoA-I and plasma apoA-I forms. The apparent catalytic efficiency (Vmax(app)/Km(app)) of the apoA-I mutants ranged from 17.8 to 107.2% of the control and was the result of variations in both the Km and the Vmax in the different mutants. These findings indicate that putative helixes 6 and 7, and the carboxyl-terminal helixes 8 and 9 contribute to the optimum activation of lecithin: **cholesterol** acyltransferase. In addn. to their use in the present study, the variant apoA-I forms generated will serve as valuable reagents

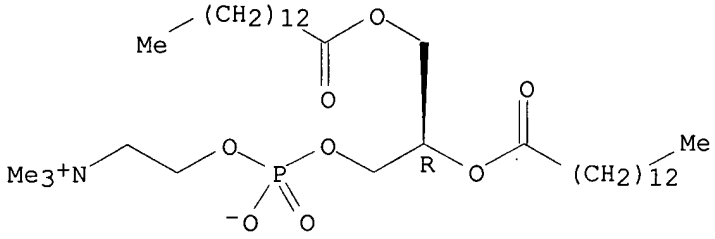
for the identification of the domains and residues of apoA-I involved in binding the scavenger receptor BI, and facilitating **cholesterol** efflux from cells as well as aid in the structural anal. of apoA-I.

IT **18194-24-6**, Dimyristoylphosphatidylcholine
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(C-terminal hydrophobic residues of human apolipoprotein A-I affect its rate of **phospholipid** binding, assocn. with high d. lipoprotein, self-assocn. ability, and effect on lecithin: **cholesterol** acyltransferase activity)

RN 18194-24-6 HCAPLUS

CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



=> d ibib abs hitstr 4

L14 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:354033 HCAPLUS
DOCUMENT NUMBER: 126:334373
TITLE: Antiatherogenic liposomal compositions and methods of using them
INVENTOR(S): Williams, Kevin Jon
PATENT ASSIGNEE(S): Williams, Kevin Jon, USA
SOURCE: PCT Int. Appl., 141 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

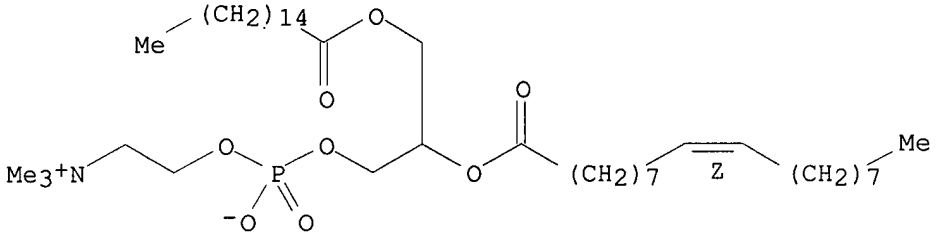
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9713501	A1	19970417	WO 1996-US16388	19961011
W: AU, CA, CN, JP, MX, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2231547	AA	19970417	CA 1996-2231547	19961011
AU 9675956	A1	19970430	AU 1996-75956	19961011
EP 863748	A1	19980916	EP 1996-938625	19961011
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1228018	A	19990908	CN 1996-198729	19961011
US 6080422	A	20000627	US 1996-731256	19961011
US 2001009670	A1	20010726	US 1998-60611	19980415
US 2001038845	A1	20011108	US 1998-60715	19980415
US 2002022053	A1	20020221	US 2001-790232	20010221

PRIORITY APPLN. INFO.:
US 1995-5090 P 19951011
US 1996-728766 A3 19961011
WO 1996-US16388 W 19961011
US 1998-60644 B3 19980415

AB The present invention provides a liposomal compn., method of using a liposomal compn., and devices and modes of operation of the devices and of the compns., and kits related thereto. The invention provides for the reverse transport of **cholesterol** from peripheral tissues to the liver in a warm blooded mammal while controlling plasma atherogenic lipoprotein concns., including LDL concns. The method and mode of operation of the devices includes the step of administering an effective amt. of a multiplicity of acceptors comprised of **phospholipids** substantially free of **sterol**. The method optionally includes the step of periodically assaying atherogenic lipoprotein concns. with an assay during the treatment period to assess atherogenic lipoprotein concns. and obtain an atherogenic lipoprotein profile, and adjusting the administration in response to said profile. The large liposomes are dimensioned larger than fenestrations of an endothelial layer lining hepatic sinusoids in the liver so that the liposomes are too large to readily penetrate the fenestrations of one variant. The therapeutically effective amts. are in the range of about 10 mg to about 1600 mg **phospholipid** per kg body wt. per dose. A pharmaceutical compn. and related kit for mobilizing peripheral **cholesterol** and sphingomyelin that enters the liver of a subject consisting essentially of liposomes of a size and shape larger than fenestrations of an endothelial layer lining hepatic sinusoids in the liver is also provided. The invention also provides for control of **cholesterol** related **genes** and other compds.

IT **26662-91-9, Palmitoyloleoylphosphatidylcholine**
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(antiatherogenic liposomal compns. and methods of using them)
RN 26662-91-9 HCAPLUS
CN 3,5,8-Trioxa-4-phosphahexacos-17-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-9-oxo-7-[[(1-oxohexadecyl)oxy]methyl]-, inner salt, 4-oxide, (17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



=> d ibib abs hitstr 5

L14 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:369786 HCAPLUS
DOCUMENT NUMBER: 125:41790
TITLE: Preparation of multivesicular liposomes for controlled release of active agents
INVENTOR(S): Sankaram, Mantripragada B.; Kim, Sinil
PATENT ASSIGNEE(S): Depotech Corporation, USA
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9608235	A1	19960321	WO 1995-US11609	19950913
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
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CA 2199004	AA	19960321	CA 1995-2199004	19950913
AU 9535115	A1	19960329	AU 1995-35115	19950913
AU 697484	B2	19981008		
EP 781123	A1	19970702	EP 1995-931820	19950913
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BR 9508913	A	19971230	BR 1995-8913	19950913
JP 3026271	B2	20000327	JP 1996-510312	19950913
JP 10502667	T2	19980310		
FI 9701037	A	19970512	FI 1997-1037	19970312
NO 9701149	A	19970513	NO 1997-1149	19970312

PRIORITY APPLN. INFO.: US 1994-305158 A 19940913
WO 1995-US11609 W 19950913

AB A process for producing multivesicular liposomes (MVL's) for controlled release of biol. active substances comprise (1) forming a water-in-oil emulsion from two immiscible components, a lipid component contg. org. solvent, an amphiphilic lipid and a neutral lipid, and a first aq. component contg. an active substance, (2) dispersing the emulsion into a second aq. component to form solvent spherules, and (3) removing the org. solvent from the solvent spherules to form the multivesicular liposomes. The osmolarity of the first aq. component is chosen to modulate the rate of release from multivesicular liposomes into a physiol. aq. environment. The rate of release of the active substance can be decreased by increasing the osmolarity of the first aq. component or increased by decreasing the osmolarity.

IT **10015-85-7**, Dioleoyl phosphatidylcholine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of multivesicular liposomes for controlled release of active agents)

RN 10015-85-7 HCAPLUS

=> d kwic 5

L14 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2002 ACS
IT Cardiolipins
Esters, biological studies
Ethers, biological studies
Hormones
Hydrocarbons, biological studies
Lysophosphatidylcholines
Monosaccharides
Nucleic acids
Peptides, biological studies
Phosphatidic acids
Phosphatidylcholines, biological studies
Phosphatidylethanolamines
Phosphatidylglycerols
Phosphatidylinositols
Phosphatidylserines
Phospholipids, biological studies
Polymers, biological studies
Polysaccharides, biological studies
Proteins, biological studies
Radioelements, biological studies
Sphingomyelins
Steroids, biological studies
Tocopherols
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of multivesicular liposomes for controlled release of active agents)
IT **Nucleic** acids
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(analogs, prepn. of multivesicular liposomes for controlled release of active agents)
IT Radiography
(**contrast** agents, prepn. of multivesicular **liposomes** for controlled release of active agents)
IT 50-70-4, Sorbitol, biological studies 50-99-7, D Glucose, biological studies 56-40-6, Glycine, biological studies 56-87-1, Lysine, biological studies 57-50-1, Sucrose, biological studies 57-88-5, **Cholesterol**, biological studies 59-23-4, D Galactose, biological studies 69-65-8, Mannitol 69-79-4, Maltose 71-00-1, Histidine, biological studies 74-79-3, Arginine, biological studies 77-92-9, Citric acid, biological studies 99-20-7, Trehalose 110-15-6, Succinic acid, biological studies 111-02-4, Squalene 122-32-7, Triolein 124-30-1, **Stearylamine** 124-38-9, Carbon dioxide, biological studies 147-94-4, Cytarabine 538-23-8, Tricaprylin 3458-28-4, D Mannose 4537-77-3, Dipalmitoyl phosphatidylglycerol 7647-14-5, Sodium chloride, biological studies 7664-41-7, Ammonia, biological studies 9004-54-0, Dextran, biological studies **10015-85-7**, Dioleoyl phosphatidylcholine 12619-70-4, Cyclodextrin 37517-28-5, Amikacin 39831-55-5, Amikacin sulfate
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of multivesicular liposomes for controlled release of active agents)

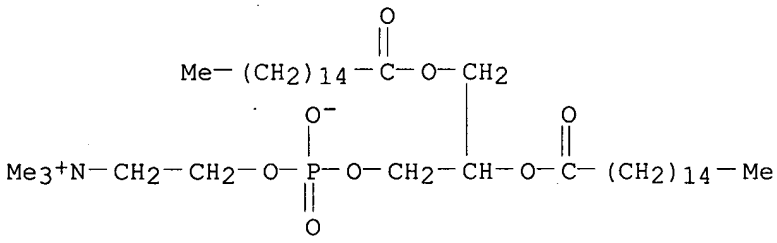
=> d ibib abs hitstr 6

L14 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1987:593171 HCAPLUS
DOCUMENT NUMBER: 107:193171
TITLE: **DNA** translocation across model **phospholipid** membranes. II. Factors influencing the translocation efficiency
AUTHOR(S): Budker, V. G.; Sokolov, A. V.
CORPORATE SOURCE: Inst. Bioorg. Chem., Novosibirsk, USSR
SOURCE: Biol. Membr. (1987), 4(6), 639-47
CODEN: BIMEE9
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The efficiency of **DNA** uptake by large unilamellar **liposomes** via **DNA** absorption into the **liposomes** in the presence of di- or trivalent cations depends on the following factors: size of the **liposomes** and phase state of the **liposomal** membrane, size of **DNA**, magnitude of osmotic gradient across the membrane, and di- or trivalent cation concn. in the medium. The **DNA** uptake results in a change of osmotic sensitivity of the **liposomes**. The **DNA** entrapped in this manner is released from **liposomes** in highly hypotonic media, in **contrast** to **DNA** incorporated into **liposomes** during their formation.

IT **2644-64-6**, Dipalmitoylphosphatidylcholine
RL: BIOL (Biological study)
(liposomes contg., **DNA** translocation across)

RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



=> d kwic 6

L14 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2002 ACS
TI **DNA** translocation across model **phospholipid** membranes. II. Factors influencing the translocation efficiency

AB The efficiency of **DNA** uptake by large unilamellar **liposomes** via **DNA** absorption into the **liposomes** in the presence of di- or trivalent cations depends on the following factors: size of the **liposomes** and phase state of the **liposomal** membrane, size of **DNA**, magnitude of osmotic gradient across the membrane, and di- or trivalent cation concn. in the medium. The **DNA** uptake results in a change of osmotic sensitivity of the **liposomes**. The **DNA** entrapped in

this manner is released from **liposomes** in highly hypotonic media, in **contrast** to **DNA** incorporated into **liposomes** during their formation.

ST **DNA** transport **phospholipid** membrane; liposome **DNA** transport

IT Cations
(divalent, **DNA** translocation across unilamellar liposomes response to)

IT Biological transport
(translocation, of **DNA**, by unilamellar liposomes)

IT 7439-95-4, Magnesium, biological studies 7439-96-5, Manganese, biological studies 7440-27-9, Terbium, biological studies 7440-66-6, Zinc, biological studies 7440-70-2, Calcium, biological studies
RL: BIOL (Biological study)
(**DNA** translocation across unilamellar liposomes response to)

IT 57-88-5, **Cholesterol**, biological studies **2644-64-6**, Dipalmitoylphosphatidylcholine
RL: BIOL (Biological study)
(liposomes contg., **DNA** translocation across)

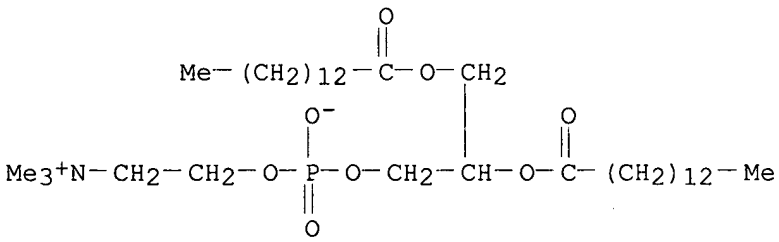
=> d ibib abs hitstr 1

L15 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:315793 HCAPLUS
DOCUMENT NUMBER: 133:147223
TITLE: Synthesis of **gadolinium** oxide magnetoliposomes for magnetic resonance imaging
AUTHOR(S): Roberts, Danielle; Zhu, Weibe L.; Frommen, Christoph M.; Rosenzweig, Zeev
CORPORATE SOURCE: Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, 70148, USA
SOURCE: J. Appl. Phys. (2000), 87(9, Pt. 3), 6208-6210
CODEN: JAPIAU; ISSN: 0021-8979
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A method for the synthesis of **gadolinium** oxide magnetoliposomes, i.e., nanosized **gadolinium** oxide magnetic particles coated by a **phospholipid** membrane, is presented. Magnetoliposomes were prepd. by reacting lauric acid coated **gadolinium** oxide nanoparticles with dimyristoylphosphatidylcholine **liposomes** prepd. using a direct injection method. The **gadolinium** oxide magnetoliposomes were characterized using TEM **imaging**, x-ray diffraction, and fluorescence. The magnetic properties of the magnetoliposomes were investigated with a superconducting quantum interference device magnetometer and NMR (NMR) spectrometry. Our results indicate that the magnetoliposomes contain approx. spherical nanoparticles averaging 20 nm in diam. The occurrence of a **phospholipid** bilayer surrounding the magnetic particles is confirmed both by transmission electron micrographs of samples neg. stained with uranyl acetate and by digital fluorescence **imaging** microscopy measurements of magnetoliposomes labeled with fluorescein. The particles are paramagnetic at room temp. NMR measurements show that the ratio between the relaxivities of the particles depends largely on their prepn.

IT **18656-38-7**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(synthesis of **gadolinium** oxide magnetoliposomes for magnetic resonance imaging)

RN 18656-38-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr 2

L15 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:672544 HCAPLUS
DOCUMENT NUMBER: 131:276955
TITLE: Use of particulate contrast agents in diagnostic imaging for studying physiological parameters
INVENTOR(S): Fossheim, Sigrid Lise; Klaveness, Jo; Bjornerud, Atle; Rongved, Pal; Golman, Klaes; Skurtveit, Roald
PATENT ASSIGNEE(S): Nycomed Imaging A/S, Norway; Cockbain, Julian
SOURCE: PCT Int. Appl., 99 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9952505	A1	19991021	WO 1999-GB1100	19990409
W: AE, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9934329	A1	19991101	AU 1999-34329	19990409
EP 1069888	A1	20010124	EP 1999-915906	19990409
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.:

GB 1998-7840	A	19980409
GB 1998-28874	A	19981231
US 1999-119808	P	19990212
WO 1999-GB1100	W	19990409

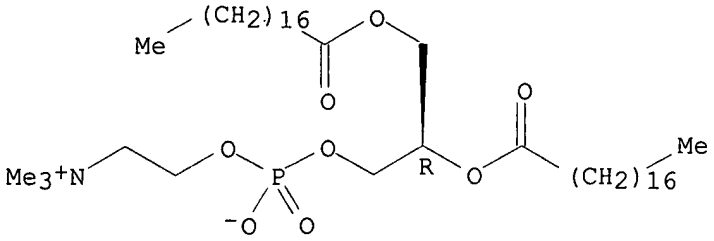
AB The present invention relates to a method of imaging of an animate human or non-human animal body, which method comprises: administering parenterally to said body a particulate material comprising a matrix or membrane material and at least one contrast generating species, which matrix or membrane material is responsive to a pre-selected physiol. parameter whereby to alter the contrast efficacy of said species in response to a change in the value of said parameters; generating image data of at least part of said body in which said species is present; and generating therefrom a signal indicative of the value or variation of said parameter in said part of said body. The invention also relates to contrast media for imaging a physiol. parameter.

IT **816-94-4**, Distearoylphosphatidyl choline **2644-64-6**, DPPC **2644-64-6D**, Dipalmitoylphosphatidylcholine, **PEG** conjugates **4539-70-2**, Distearoyl phosphatidyl choline **64792-89-8**, Dibehenoylphosphatidylcholine
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(use of particulate contrast agents in diagnostic imaging for studying physiol. parameters)

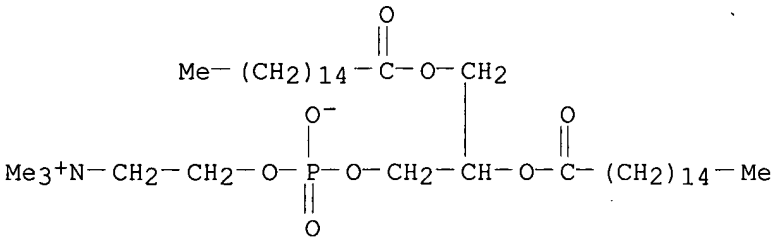
RN 816-94-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX

NAME)

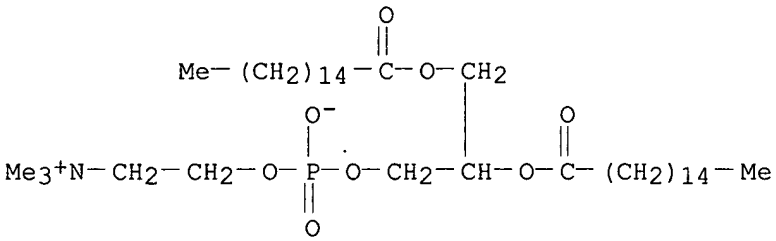
Absolute stereochemistry.



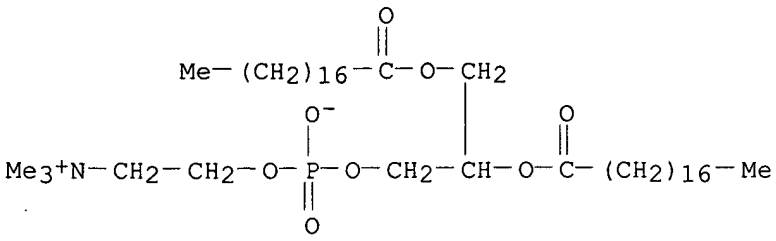
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



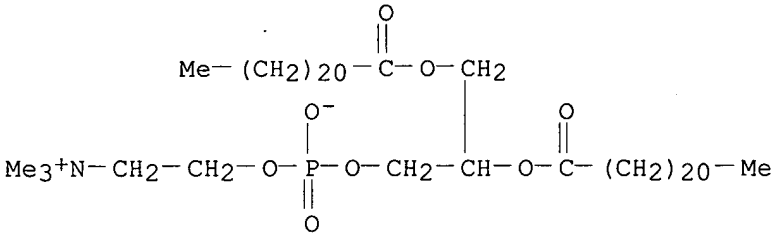
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 64792-89-8 HCAPLUS
CN 3,5,9-Trioxa-4-phosphahentriacontan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxodocosyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

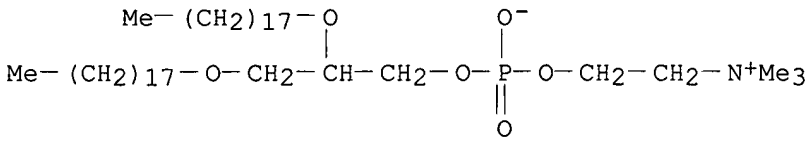
=> d ibib abs hitstr 3

L15 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:547856 HCAPLUS
DOCUMENT NUMBER: 129:306387
TITLE: Biodistribution and computed tomography studies on **iopromide** liposomes
AUTHOR(S): Erdogan, S.; Ozer, A. Y.; Ercan, M. T.; Aydin, K.; Hincal, A. A.
CORPORATE SOURCE: Departments of Radiopharmacy, Faculty of Pharmacy, Hacettepe University, Ankara, 06100, Turk.
SOURCE: S.T.P. Pharma Sci. (1998), 8(2), 133-137
CODEN: STSSE5; ISSN: 1157-1489
PUBLISHER: Editions de Sante
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Liposomes** contg. **iopromide** were prepd. by film method followed by extrusion. Biodistribution and computed tomog. **imaging** efficiency were evaluated in rats. **Liposomes** were taken up by the reticulo-endothelial system localized in the macrophages or Kupffer cells. The best biodistribution and computed tomog. enhancement of the liver images were obtained with formulation E2 (PL100/SA/Chol 7/2/4 molar ratio, liq. cryst. state).

IT **45322-29-0**, Distearyl phosphatidyl choline
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(biodistribution and computed tomog. studies on **iopromide** liposomes in liver)

RN 45322-29-0 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-7-(octadecyloxy)-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



=> d ibib abs hitstr 4

L15 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:181098 HCAPLUS
DOCUMENT NUMBER: 126:168810
TITLE: Blood-pool imaging compositions use and method
INVENTOR(S): Tournier, Herve; Lamy, Bernard; Hyacinthe, Roland
PATENT ASSIGNEE(S): Bracco Research S.A., Switz.
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9700087	A1	19970103	WO 1996-IB577	19960614
W: AU, CA, CN, CZ, HU, IL, JP, KR, MX, NO, NZ, PL, RU, UA				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2195633	AA	19970103	CA 1996-2195633	19960614
AU 9658431	A1	19970115	AU 1996-58431	19960614
AU 708328	B2	19990805		
ZA 9605101	A	19970122	ZA 1996-5101	19960614
EP 804251	A1	19971105	EP 1996-919971	19960614
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
JP 10504044	T2	19980414	JP 1996-502856	19960614
NO 9700665	A	19970403	NO 1997-665	19970213

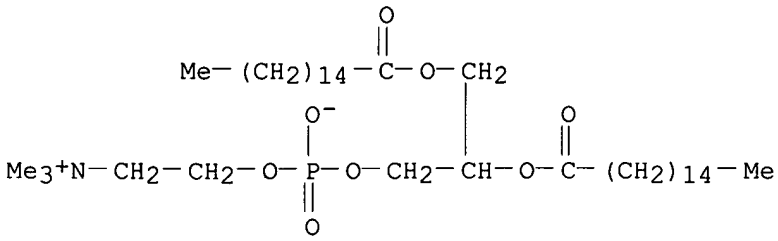
PRIORITY APPLN. INFO.: EP 1995-810403 A 19950615
WO 1996-IB577 W 19960614

AB The invention concerns NMR imaging contrast compns. comprising magnetically responsive species coupled to physiol. acceptable amphipathic org. substrate materials in the form of mixed micelles suspended or dispersed in a physiol. acceptable aq. liq. carrier. The compns. are particularly useful for diagnostic investigations of the blood pool. The invention also concerns the prepn. of the mixed micelles, as well as of injectable compns. contg. the mixed micelles as contrast agents for MRI. Once injected, the mixed micelles of the compns. behave as imaging contrast enhancers, e.g., they will improve the quality and resoln. of the electronically processed images obtained during MRI examns. of the circulation and/or circulation-targeted organs. The compns. are formulated to protect the particles of the contrast agents from early removal by the reticuloendothelial (RES) system of the liver and the spleen, so that they will stay in the circulation for a time sufficient to properly image the blood vessels and to be transported to selected organs. MRI imaging of the circulation and of targeted organs can strongly assist in diagnosing possible ailments in humans and animals.

IT **2644-64-6**, Dipalmitoylphosphatidylcholine
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(MRI contrast agents for blood-pool imaging)

RN 2644-64-6 HCAPLUS

CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



=> d ibib abs hitstr 5

L15 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:85497 HCAPLUS
DOCUMENT NUMBER: 126:135617
TITLE: Method of preparing gas and gaseous precursor-filled microspheres
INVENTOR(S): Unger, Evan C.; Fritz, Thomas A.; Matsunaga, Terry; Ramaswami, Varadarajan; Yellowhair, David; Wu, Guanli
PATENT ASSIGNEE(S): Imarx Pharmaceutical Corp., USA
SOURCE: U.S., 42 pp. Cont.-in-part of U.S. Ser. No. 160,232, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 19
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5585112	A	19961217	US 1993-159687	19931130
US 5088499	A	19920218	US 1990-569828	19900820
WO 9109629	A1	19910711	WO 1990-US7500	19901219
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
JP 05502675	T2	19930513	JP 1991-503276	19901219
AT 180170	E	19990615	AT 1991-902857	19901219
ES 2131051	T3	19990716	ES 1991-902857	19901219
US 5228446	A	19930720	US 1991-717084	19910618
WO 9222247	A1	19921223	WO 1992-US2615	19920331
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
AU 9220020	A1	19930112	AU 1992-20020	19920331
AU 667471	B2	19960328		
JP 06508364	T2	19940922	JP 1992-500847	19920331
EP 616508	A1	19940928	EP 1992-912456	19920331
EP 616508	B1	20010718		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				
AT 203148	E	20010815	AT 1992-912456	19920331
ES 2159280	T3	20011001	ES 1992-912456	19920331
US 5469854	A	19951128	US 1993-76239	19930611
US 5348016	A	19940920	US 1993-88268	19930707
US 5542935	A	19960806	US 1993-160232	19931130
US 5769080	A	19980623	US 1994-199462	19940222
CA 2164846	AA	19941222	CA 1994-2164846	19940519
WO 9428874	A1	19941222	WO 1994-US5633	19940519
W: AU, CA, CN, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9469537	A1	19950103	AU 1994-69537	19940519
AU 696056	B2	19980827		
JP 08511523	T2	19961203	JP 1994-501811	19940519
EP 802788	A1	19971029	EP 1994-918051	19940519
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
AU 9470431	A1	19950103	AU 1994-70431	19940520
AU 683900	B2	19971127		
EP 712293	A1	19960522	EP 1994-919208	19940520
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08511526	T2	19961203	JP 1994-501839	19940520
US 5773024	A	19980630	US 1994-307305	19940916

US 5733572	A	19980331
CA 2177713	AA	19950608
JP 09506098	T2	19970617
US 5922304	A	19990713
US 5705187	A	19980106
US 5571497	A	19961105
US 5853752	A	19981229
US 5656211	A	19970812
CN 1180310	A	19980429
US 5776429	A	19980707
US 6001335	A	19991214
US 6146657	A	20001114
US 5935553	A	19990810
US 6039557	A	20000321
US 5985246	A	19991116
US 6071495	A	20000606
US 6033646	A	20000307
AU 713127	B2	19991125
AU 9856271	A1	19980507
AU 9888406	A1	19990204
AU 732440	B2	20010426
AU 9888405	A1	19981203
AU 731072	B2	20010322
AU 9910043	A1	19990304

US 1994-346426		19941129
CA 1994-2177713		19941130
JP 1994-515763		19941130
US 1995-401974		19950309
US 1995-417238		19950405
US 1995-468056		19950606
US 1995-487230		19950606
US 1995-482294		19950607
CN 1996-193069		19960327
US 1996-643070		19960430
US 1996-665719		19960618
US 1996-741598		19961101
US 1996-758179		19961125
US 1997-833489		19970407
US 1997-888426		19970708
US 1997-942862		19971002
US 1998-26326		19980219
AU 1998-56271		19980224
AU 1998-88406		19981009
AU 1998-88405		19981012
AU 1999-10043		19990104

PRIORITY APPLN. INFO.:

US 1989-455707	B2	19891222
US 1990-569828	A2	19900820
US 1990-569828	YY	19900820
US 1991-716899	B2	19910618
US 1991-717084	A2	19910618
US 1993-76239	A2	19930611
US 1993-159674	B2	19931130
US 1993-160232	B2	19931130
WO 1990-US7500	W	19901219
US 1991-569828	A2	19910820
US 1991-750877	A3	19910826
US 1992-818069	A3	19920108
WO 1992-US2615	A	19920331
US 1992-967974	A3	19921027
US 1993-17683	A3	19930212
US 1993-18112	B3	19930217
US 1993-76250	A2	19930611
US 1993-85608	A3	19930630
US 1993-88268	A3	19930707
US 1993-159687	A2	19931130
US 1993-163039	A3	19931206
US 1994-212553	B2	19940311
AU 1994-69537	A3	19940519
AU 1994-70416	A3	19940519
WO 1994-US5633	W	19940519
WO 1994-US5792	W	19940520
US 1994-307305	A2	19940916
US 1994-346426		19941129
AU 1995-21850	A3	19941130
WO 1994-US13817	W	19941130
US 1995-395683	A3	19950228
US 1995-401974	A2	19950309
US 1995-468056	A3	19950606
US 1995-471250	A3	19950606
US 1995-487230	A3	19950606
US 1995-482294	A3	19950607

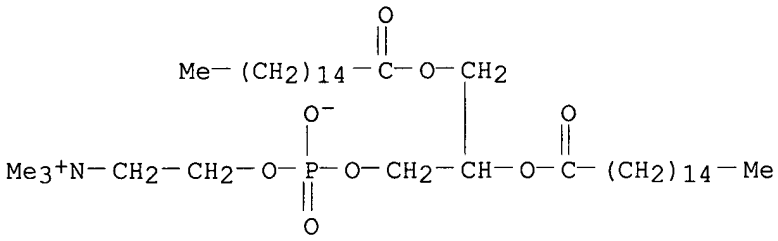
US 1996-643070 A3 19960430
US 1996-665719 A3 19960618

AB Methods of and app. for prepg. temp. activated gaseous precursor-filled **liposomes** are described. Gaseous precursor-filled **liposomes** prepd. by these methods are particularly useful, for example, in ultrasonic **imaging** applications and in therapeutic drug delivery systems. A lipid soln. contg. 83:8:5 molar ratio of dipalmitoylphosphatidylcholine, dipalmitoylphosphatidylethanolamine bearing **PEG**, and dipalmitoylphosphatidic acid in 8:1:1 PBS, glycerol, and propylene glycol and perfluorobutane were placed in a microfluidizer and subjected to 20 passes at 16,000 psi at -20.degree.. Limited size vesicles, having a size of 30-50 nm, resulted and upon warming to room temp., stabilized microspheres of 10 .mu.m resulted.

IT **2644-64-6**, Dipalmitoylphosphatidylcholine **4539-70-2**, Distearoylphosphatidylcholine **18656-38-7**, Dimyristoylphosphatidylcholine **18656-40-1**, Dilauroylphosphatidylcholine **67896-63-3**, Dipentadecanoylphosphatidylcholine **68737-67-7**, Dioleoylphosphatidylcholine,
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(temp.-activated gaseous precursor-filled **liposomes** for ultrasound **imaging contrast** agents and drug delivery agents)

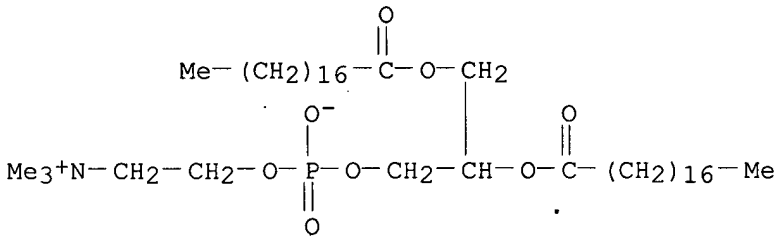
RN 2644-64-6 HCAPLUS

CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



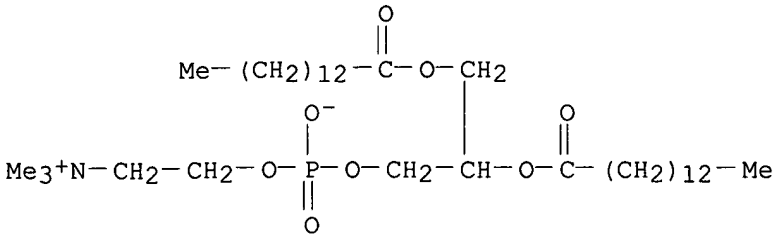
RN 4539-70-2 HCAPLUS

CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)

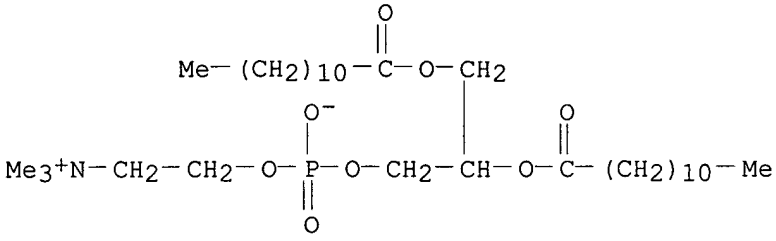


RN 18656-38-7 HCAPLUS

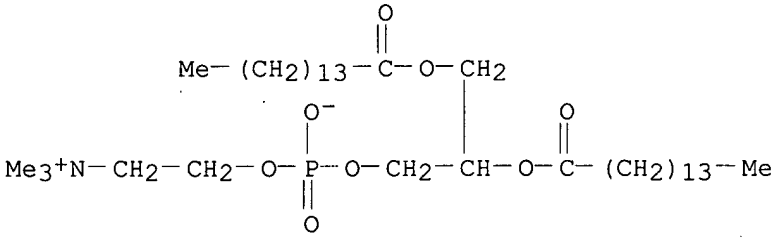
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 18656-40-1 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheneicosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxododecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



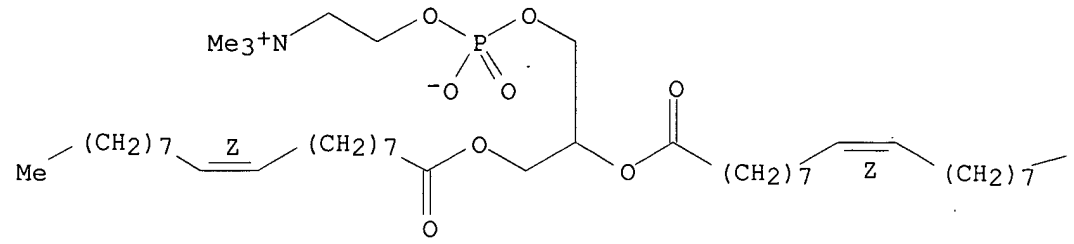
RN 67896-63-3 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatetracosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxopentadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 68737-67-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (18Z)-(9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

Me

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L15 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2002 ACS
IC ICM A61K009-127
NCL 424450000
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 9
ST **fluorine** gas **liposome** ultrasound **imaging** agent; pharmaceutical **liposome fluorine** contg gas
IT **Imaging** agents
(acoustic; temp.-activated gaseous precursor-filled **liposomes** for ultrasound **imaging contrast** agents and drug delivery agents)
IT **Liposomes** (drug delivery systems)
(temp.-activated gaseous precursor-filled **liposomes** for ultrasound **imaging contrast** agents and drug delivery agents)
IT Cardiolipins
Digalactosyl diglycerides
Fatty acids, biological studies
Fluoro hydrocarbons
Glycolipids
Glycosphingolipids
Lipids, biological studies
Perfluorocarbons
Phosphatidic acids
Phosphatidylcholines, biological studies
Phosphatidylethanolamines, biological studies
Phosphatidylglycerols
Phosphatidylinositols
Phosphatidylserines
Phospholipids, biological studies
Polyoxyalkylenes, biological studies
Sphingolipids
Sphingomyelins

Sulfatides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(temp.-activated gaseous precursor-filled **liposomes** for ultrasound **imaging contrast** agents and drug delivery agents)

IT 57-09-0, Cetyltrimethylammonium bromide 57-10-3, Hexadecanoic acid, biological studies 57-11-4, Octadecanoic acid, biological studies 57-88-5, **Cholesterol**, biological studies 75-10-5 75-43-4, Dichloro-fluoro, methane 75-45-6 75-46-7 75-61-6, Dibromo difluoro, methane 75-63-8, Bromo-trifluoro, methane 75-69-4 75-71-8 75-72-9, Chloro trifluoro, methane 75-73-0 76-13-1, 1,1,2-Trichloro-1,2,2-trifluoroethane 76-15-3, 1-Chloro-1,1,2,2,2-pentafluoro ethane 76-16-4, Perfluoroethane 76-19-7, Perfluoropropane 112-80-1, Oleic acid, biological studies 115-25-3, Octafluoro-cyclobutane 116-15-4 124-03-8, Cetyldimethylethylammonium bromide 124-30-1, **Stearylamine** 140-72-7, Cetylpyridinium bromide 306-94-5, Perfluorodecalin 311-89-7, Perfluorotributylamine 334-99-6, Nitroso-trifluoro, methane 335-02-4, Nitro-trifluoro, methane 335-05-7, Trifluoro, methanesulfonyl fluoride 338-65-8, 2-Chloro, 1,1-difluoroethane 338-83-0, Perfluorotripropylamine 353-36-6, Fluoro-ethane 353-85-5, Trifluoroacetonitrile 353-87-7, Bromo difluoro nitroso, methane 354-25-6, 1-Chloro-1,1,2,2-tetrafluoro ethane 354-72-3, Nitroso-pentafluoro ethane 354-80-3, Perfluoro ethylamine 354-81-4, Nitro-pentafluoro ethane 355-25-9, Decafluoro butane 355-42-0, Perfluorohexane 357-26-6, Perfluoro-1-butene 359-35-3, 1,1,2,2-Tetrafluoroethane 359-62-6 360-89-4, Perfluoro-2-butene 371-67-5, 1,1,1-Trifluorodiazoethane 371-77-7 371-78-8, Trifluoromethyl sulfide 373-52-4, Bromo fluoro, methane 374-07-2, 1,1-Dichloro-1,2,2,2-tetrafluoro ethane 420-45-1, 2,2 Difluoro, propane 420-46-2, 1,1,1-Trifluoroethane 421-56-7, -Chloro difluoro nitro, methane 423-26-7, Heptafluoro-1-nitroso, propane 423-33-6 423-55-2, Perfluorooctylbromide 461-68-7, Tetrafluoroallene 506-32-1, Arachidonic acid 507-63-1, Perfluorooctyliodide 559-40-0, Octafluorocyclopentene. 593-53-3, Fluoro, methane 593-70-4, Chloro fluoro, methane 593-98-6, -Bromo chloro-fluoro, methane 624-72-6, 1,2-Difluoro ethane 677-56-5, 1, 1, 1, 2, 2, 3-Hexafluoro, propane 678-26-2, Perfluoropentane 684-16-2, Hexafluoro acetone 685-63-2, Hexafluoro-1,3-butadiene 692-50-2, Perfluoro-2-butyne 697-11-0, Perfluoro-cyclobutene 811-97-2, 1,1,1,2-Tetrafluoro ethane 927-84-4, Trifluoromethyl peroxide 1119-94-4, Lauryltrimethylammonium bromide 1119-97-7, Myristyltrimethylammonium bromide 1256-86-6, **Cholesterol** sulfate 1398-61-4, Chitin 1493-03-4, Difluoro-iodo, methane 1510-21-0, **Cholesterol** hemisuccinate 1691-13-0, 1,2-Difluoro ethylene 2314-97-8, Iodo-trifluoro, methane 2366-52-1, 1-Fluorobutane 2462-63-7, Dioleoylphosphatidylethanolamine 2551-62-4, Sulfur hexafluoride **2644-64-6**, Dipalmitoylphosphatidylcholine 3529-04-2, Benzyldimethylhexadecylammoniu m bromide 3614-36-6, **Diacetyl phosphate** 4345-03-3, .alpha.-Tocopherol hemisuccinate **4539-70-2**, Distearoylphosphatidylcholine 7281-04-1, Benzyldimethyldodecylammonium bromide 7637-07-2, Boron trifluoride, biological studies 7783-82-6, Tungsten hexafluoride 9002-89-5, Polyvinylalcohol 9003-39-8, Polyvinylpyrrolidone 9004-61-9, Hyaluronic acid **18656-38-7**, Dimyristoylphosphatidylcholine **18656-40-1**, Dilauroylphosphatidylcholine 18773-88-1, Benzyldimethyltetradecylammoniu m bromide 24529-88-2 25167-88-8 25322-68-3 25322-69-4, Polypropyleneglycol. 34077-87-7, Dichlorotrifluoroethane **67896-63-3**, Dipentadecanoylphosphatidylcholine 68354-92-7 68354-99-4 **68737-67-7**, Dioleoylphosphatidylcholine, 73294-85-6 76822-97-4 78543-25-6, 1-Hexadecyl-2-**palmitoylglycerophos**

phoethanolamine 83554-62-5 104443-57-4, Ganglioside GM2 104443-62-1, Ganglioside GM1 108032-13-9 161293-59-0 186198-32-3 186198-34-5
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(temp.-activated gaseous precursor-filled **liposomes** for ultrasound **imaging contrast** agents and drug delivery agents)

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L15 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:425321 HCAPLUS
DOCUMENT NUMBER: 125:80777
TITLE: Chelate-containing **liposomal** agents, and their preparation, for diagnostic **imaging** and therapeutic use
INVENTOR(S): Garrity, Martha; Varadarajan, John; Watson, Alan David
PATENT ASSIGNEE(S): Cockbain, Julian Roderick Michaelson, USA
SOURCE: PCT Int. Appl., 57 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9611023	A1	19960418	WO 1995-GB2378	19951009
W: AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2200867	AA	19960418	CA 1995-2200867	19951009
AU 9536136	A1	19960502	AU 1995-36136	19951009
EP 785804	A1	19970730	EP 1995-933505	19951009
R: DE, ES, FR, GB, IE, IT				
CN 1168636	A	19971224	CN 1995-196533	19951009
JP 10507172	T2	19980714	JP 1995-512427	19951009
US 6045821	A	20000404	US 1997-809729	19970529
PRIORITY APPLN. INFO.:			GB 1994-20390	19941010
			WO 1995-GB2378	19951009

OTHER SOURCE(S): MARPAT 125:80777
AB A **liposomal** agent is provided which comprises **liposomes** having bound to a membrane thereof a chelated diagnostically or therapeutically effective metal ion, the chelating agent binding the metal ion having a macrocyclic chelant moiety with, attached to a single ring atom thereof, a lipophilic membrane assocg. moiety. The **liposomes** of the invention are useful for e.g. diagnostic **imaging** agents.
IT **10015-85-7**, Dioleoylphosphatidylcholine
RL: RCT (Reactant)
(reaction; chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)
RN 10015-85-7 HCAPLUS

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L15 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2002 ACS
IC ICM A61K049-00
ICS A61K051-12
CC 8-9 (Radiation Biochemistry)
Section cross-reference(s): 28, 63, 78
ST **liposome** metal chelate **imaging** diagnosis therapy
IT Diagnosis

Therapeutics
(chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT Phosphatidylcholines, biological studies
Phosphatidylserines
Phospholipids, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT Phosphatidylethanolamines
RL: SPN (Synthetic preparation); PREP (Preparation)
(reaction products with LaDO3A-succinamide; chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT Phosphatidylethanolamines
RL: RCT (Reactant)
(reaction; chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT Phosphatidylethanolamines
RL: SPN (Synthetic preparation); PREP (Preparation)
(N-glutaryl analogs, reaction products with GdAE-DO3A; chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT Phosphatidylethanolamines
RL: RCT (Reactant)
(N-glutaryl analogs, reaction; chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT Coordination compounds
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(chelates, conjugates, with lipophilic membrane-assocg. moiety; chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT Macrocyclic compounds
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugates, with lipophilic membrane-assocg. moiety; chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT **Imaging**
(**contrast** agents, chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT Metals, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(heavy, clusters, chelates; chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT **Phospholipids**, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hydrogenated, chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT Pharmaceutical dosage forms
(**liposomes**, chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT Magnetic substances
(para-, metals; chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT 173308-20-8P
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT 173308-26-4P 178558-00-4P 178558-01-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT 173308-00-4P 173308-07-1P 173308-25-3P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT 7429-91-6D, Dysprosium, chelates 173307-99-8D, chelates 173308-28-6 178557-95-4D, chelates 178557-96-5D, chelates 178557-97-6D, chelates 178557-98-7D, chelates 178557-99-8D, chelates
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT 132156-10-6P 150467-20-2P 173307-96-5P 173308-04-8P 173308-05-9P 173308-06-0P 173308-18-4P 173308-19-5P 173308-24-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction; chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

IT 79-04-9, Chloroacetyl chloride 96-32-2, Methyl bromoacetate 99-76-3, Methyl p-hydroxybenzoate 107-15-3, Ethylenediamine, reactions 108-30-5, Succinic anhydride, reactions 112-60-7, Tetraethyleneglycol 112-76-5, **Stearoyl** chloride 1074-82-4, Potassium phthalimide 1182-65-6, **Cholesterol** tosylate 1510-21-0, **Cholesterol** hemisuccinate 4101-68-2, 1,10-Dibromodecane 7144-08-3, **Cholesterol** chloroformate **10015-85-7**, Dioleoylphosphatidylcholine 10138-52-0, **Gadolinium** (III) chloride 16056-77-2, **Gadolinium** acetate 79787-48-7 103003-24-3 149353-23-1 178558-02-6
RL: RCT (Reactant)
(reaction; chelate-contg. **liposomal** agents, and their prepn., for diagnostic **imaging** and therapeutic use)

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L15 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:698979 HCAPLUS
DOCUMENT NUMBER: 123:93301
TITLE: Charged liposome preparation
INVENTOR(S): Krause, Werner; Sachse, Andreas; Sullivan, Mark
PATENT ASSIGNEE(S): Schering A.-G., Germany
SOURCE: PCT Int. Appl., 77 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

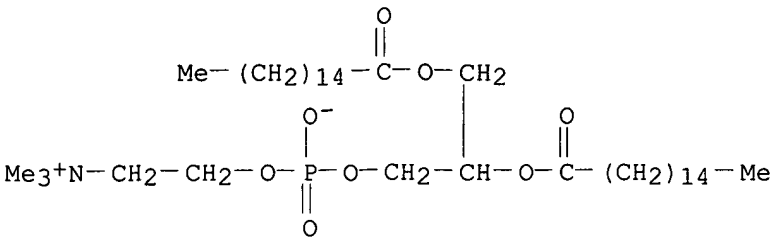
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9512386	A1	19950511	WO 1994-EP3668	19941104
W: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2174326	AA	19950511	CA 1994-2174326	19941104
AU 9480614	A1	19950523	AU 1994-80614	19941104
EP 726762	A1	19960821	EP 1994-931585	19941104
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
HU 74517	A2	19970128	HU 1996-1190	19941104
JP 09506084	T2	19970617	JP 1994-513029	19941104
FI 9601893	A	19960503	FI 1996-1893	19960503
NO 9601826	A	19960506	NO 1996-1826	19960506
PRIORITY APPLN. INFO.:			US 1993-145541	19931104
			WO 1994-EP3668	19941104

AB The invention relates to a method of administering a liposome prepn. contg. an elec. charged component which is effective in reducing adverse effects of a liposome prepn., e.g., in reducing hemodynamic effects and improving host tolerance. Liposomes contg. **stearic** acid as the elec.-charged component were prepd. and after i.v. infusion to dogs were well tolerated and free of adverse hemodynamic effects.

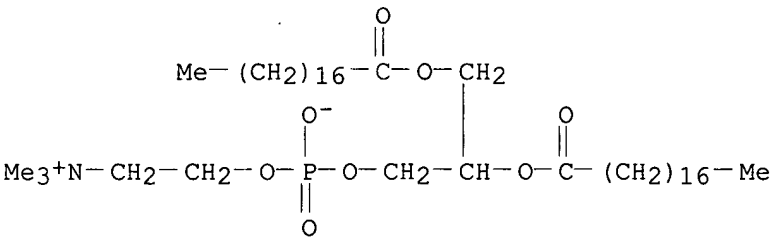
IT **2644-64-6**, Dipalmitoylphosphatidylcholine **4539-70-2**, Distearoylphosphatidylcholine **13699-48-4**, Dimyristoyl phosphatidylcholine
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(charged liposome prepn. with reduced hemodynamic effects and improved tolerance)

RN 2644-64-6 HCAPLUS

CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 13699-48-4 HCAPLUS

=> d ibib abs hitstr 8

L15 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:389811 HCAPLUS
DOCUMENT NUMBER: 122:170195
TITLE: Therapeutic delivery systems comprising gas precursor-filled microspheres
INVENTOR(S): Unger, Evan C.; Fritz, Thomas A.; Matsunaga, Terry; Ramaswami, Varadarajan; Yellowhair, David; Wu, Guanli
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 207
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 19
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9428874	A1	19941222	WO 1994-US5633	19940519
W: AU, CA, CN, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5580575	A	19961203	US 1993-76250	19930611
US 5542935	A	19960806	US 1993-160232	19931130
US 5585112	A	19961217	US 1993-159687	19931130
AU 9469537	A1	19950103	AU 1994-69537	19940519
AU 696056	B2	19980827		
JP 08511523	T2	19961203	JP 1994-501811	19940519
EP 802788	A1	19971029	EP 1994-918051	19940519
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
US 5733572	A	19980331	US 1994-346426	19941129

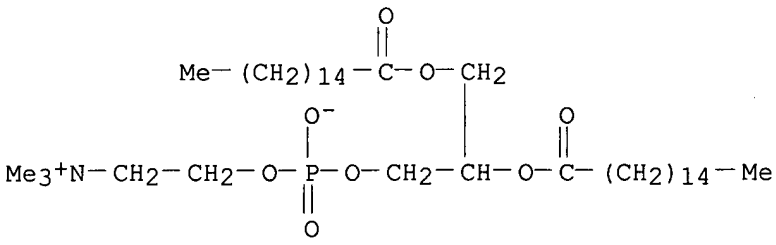
PRIORITY APPLN. INFO.:

US 1993-76250	A	19930611
US 1993-159674	A	19931130
US 1993-159687	A	19931130
US 1993-160232	A	19931130
US 1994-346426		19941129
US 1989-455707	B2	19891222
US 1990-569828	A2	19900820
US 1991-716899	B2	19910618
US 1991-717084	A2	19910618
US 1993-76239	A2	19930611
WO 1994-US5633	W	19940519
US 1994-307305	A2	19940916

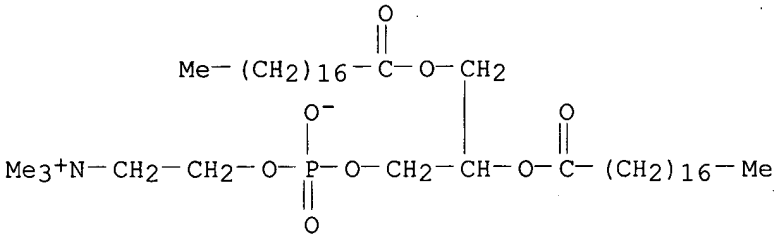
AB Therapeutic delivery systems comprising gaseous precursor-filled microspheres comprise a therapeutic. Methods for employing such microspheres in therapeutic delivery applications are also provided. Therapeutic delivery systems comprising gaseous precursor-filled **liposomes** having encapsulated therein a **contrast** agent or drug are preferred. Methods of and app. for prepg. such **liposomes** and methods for employing such **liposomes** in therapeutic delivery applications are also disclosed.

IT **2644-64-6**, Dipalmitoylphosphatidylcholine **4539-70-2**, Distearoylphosphatidylcholine **10015-85-7**, Dioleoylphosphatidylcholine **13699-48-4**, Dimyristoylphosphatidylcholine **18285-71-7**, Dilauroylphosphatidylcholine **67896-63-3**, Dipentadecanoylphosphatidylcholine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(therapeutic delivery systems comprising gas precursor-filled

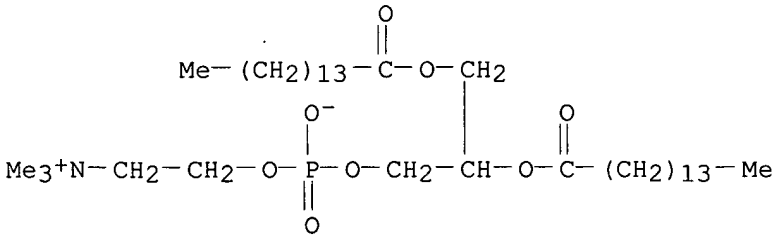
microspheres)
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 10015-85-7 HCAPLUS
RN 13699-48-4 HCAPLUS
RN 18285-71-7 HCAPLUS
RN 67896-63-3 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatetracosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxopentadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



=> d ibib abs hitstr 9

L15 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1994:442756 HCAPLUS
DOCUMENT NUMBER: 121:42756
TITLE: Interdigitation-fusion liposomes and gels
INVENTOR(S): Boni, Lawrence T.; Janoff, Andrew S.; Minchey, Sharma R.; Perkins, Walter R.; Swenson, Christine E.; Ahl, Patrick L.; Davis, Thomas S.
PATENT ASSIGNEE(S): Liposome Company, Inc., USA
SOURCE: PCT Int. Appl., 129 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9408565	A1	19940428	WO 1993-US9878	19931013
W: AU, CA, FI, JP, KR, NO, NZ				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2146115	AA	19940428	CA 1993-2146115	19931013
AU 9454051	A1	19940509	AU 1994-54051	19931013
AU 676230	B2	19970306		
EP 665743	A1	19950809	EP 1993-924329	19931013
EP 665743	B1	20011212		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08502444	T2	19960319	JP 1993-510296	19931013
AT 210426	E	20011215	AT 1993-924329	19931013
NO 9501407	A	19950410	NO 1995-1407	19950410
FI 9501811	A	19950413	FI 1995-1811	19950413

PRIORITY APPLN. INFO.: US 1992-961277 A 19921014
US 1993-66539 A 19930524
WO 1993-US9878 W 19931013

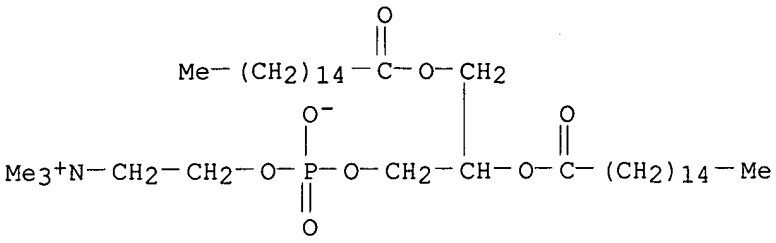
AB Interdigitation-fusion (IF) liposomes and gels which capture high solute to lipid ratios, including bioactive agent are disclosed. The fusion of liposomes to produce IF gel and liposomes according to the present invention is size dependent. In the method of the present invention, sized liposomes formed by sonication, extrusion or alternative processes are fused in the presence of EtOH or other suitable inducer. To produce liposomes, the gels are exposed to a temp. usually but not necessarily above the transition temp. (Tm) of the lipid used. The temp. required by the methods of the invention is that temp. which induces a change in the material properties of the mixt. Liposomes comprising dipalmitoylphosphatidylcholine (I) were formed in 1mL of an aq. buffer soln. to a concn. of 20mM I and addnl. contg. 0.04 mM diphenylhexatriene. After the formation of the liposomes, EtOH was added to a final concn. of 0.3-2.5 M of the aq. soln. Interdigitation was greater where higher concns. of EtOH were present and the effect of interdigitation by the same amt. of EtOH was greater in those liposomes having a larger diam.

IT **2644-64-6**, Dipalmitoylphosphatidylcholine **4539-70-2**, Distearoylphosphatidylcholine **10015-85-7**, Dioleoylphosphatidylcholine **13699-48-4**, Dimyristoylphosphatidylcholine
RL: BIOL (Biological study)
(pharmaceutical liposomes comprising, interdigitation-fusion)

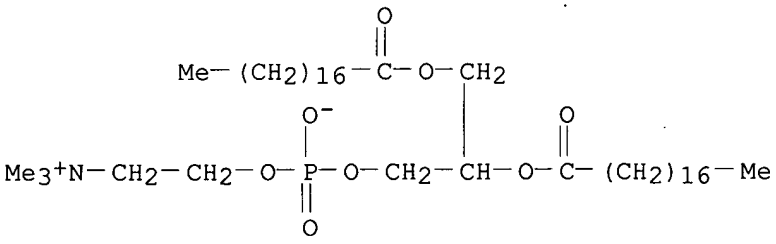
RN 2644-64-6 HCAPLUS

CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-

oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 10015-85-7 HCAPLUS
RN 13699-48-4 HCAPLUS

=> d ibib abs hitstr 10

L15 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:169151 HCAPLUS
DOCUMENT NUMBER: 116:169151
TITLE: Permeability of liposomal membranes to water: results from the magnetic field dependence of T1 of solvent protons in suspensions of vesicles with entrapped paramagnetic ions
AUTHOR(S): Koenig, Seymour H.; Ahkong, Quet F.; Brown, Rodney D., III; Lafleur, Michael; Spiller, Marga; Unger, Evan; Tilcock, Colin
CORPORATE SOURCE: Thomas J. Watson Res. Cent., IBM, Yorktown Heights, NY, 10598, USA
SOURCE: Magn. Reson. Med. (1992), 23(2), 275-86
CODEN: MRMEEN; ISSN: 0740-3194
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The diffusive permeability to water mols., Pd, of lipid vesicles with entrapped paramagnetic solute ions can be detd. rapidly from anal. of the magnetic field dependence (nuclear magnetic relaxation dispersion, or NMRD profile) of T1 of exterior solvent water protons. Such data yield .tau., the mean lifetime of solvent mols. inside the vesicles, from .tau. = (fT1Para) - T1Ves, where f is the vol. fraction of entrapped water, T1Para is the obsd. T1 cor. for buffer background, and T1Ves is the relaxation time of water protons in the entrapped soln. For small spherical unilamellar vesicles of inner radius R, Pd = R/3.tau.. f Can be obtained accurately from knowledge of both the concn. of Gd(DTPA)2- in the soln. in which the vesicles were formed and the av. concn. of ions in the final sample. At low temps., in the limit of slow exchange, T1Para becomes independent of field and .tau. = fT1Para; the observation of a field-independent profile is a control that confirms that no paramagnetic material is external to the vesicles. T1Para Was measured, using a field-cycling relaxometer, for suspensions of POPC (1-**palmitoyl**-2-oleoyl-lecithin) vesicles with 100-500 mM entrapped Gd(DTPA)2- and membrane concns. of **cholesterol** ranging 0-40 mol %. These profiles, which span the field range 0.01-50 MHz proton Larmor frequency, were taken at 5, 15, 25, and 35.degree.. Concns. of Gd(DTPA)2- were detd. independently by both ICP analyses and NMRD methods. Values for Pd for vesicles with 100 mM Gd(DTPA)2- and outer diams. 100 nm .+-. 20%, as detd. by quasielastic light scattering, are 63, 47, 24, 16, and 8.7 .times. 10-4 cm/s, at 25.degree., for **cholesterol** concns. of 0, 10, 20, 30, and 40%, resp. The corresponding activation enthalpies are 14, 14, 14, 17, and 17 kcal/M. Comparison with 2H NMR studies of deuterated POPC vesicles with no **cholesterol** at 20.degree., and with 10% at 40.degree., which yielded the same order parameter for the **palmitoyl** acyl chains, gives no indication of a correlation between order parameter and permeability.

IT **6753-55-5**, 1-**Palmitoyl**-2-oleoyl-phosphatidylcholine
RL: BIOL (Biological study)
(bilayer liposomal membrane, water permeability of, magnetic spin-lattice relaxation of **gadolinium**-DTPA in study of)
RN 6753-55-5 HCAPLUS

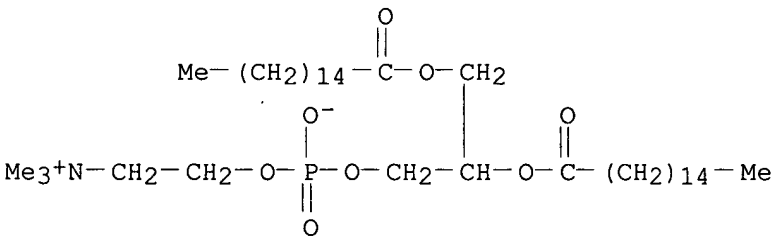
=> d ibib abs hitstr 11

L15 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:194715 HCAPLUS
DOCUMENT NUMBER: 112:194715
TITLE: NMR and ESR study of liposome delivery of manganese to murine liver
AUTHOR(S): Bacic, G.; Niesman, M. R.; Magin, R. L.; Swartz, H. M.
CORPORATE SOURCE: Coll. Med., Univ. Illinois, Urbana, IL, 61801, USA
SOURCE: Magn. Reson. Med. (1990), 13(1), 44-61
CODEN: MRMEEN; ISSN: 0740-3194
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The mechanism of tissue relaxation of **liposome**-delivered Mn2+ as a **contrast** agent for magnetic **imaging** (MRI) was examd. using magnetic resonance and ESR techniques. It is known that **liposomes** of the size and compn. used in this study are taken up by fixed liver macrophages (Kupffer cells). Mn2+ must be released from the **liposomes** in order to affect the water proton relaxation rate in the liver. As long as the Mn2+ was confined to the Kupffer cells, no substantial changes in the relaxation of the majority of the liver water were obsd. Unlike other **contrast** agents delivered to the Kupffer cells (for example, Gd-starch microspheres or **magnetite**), once the Mn2+ is delivered and released into the Kupffer cells, it can diffuse from the Kupffer cells and be rapidly taken up by the hepatocytes. This seems to be the mechanism for selective relaxation enhancement in the liver. A consequence of this behavior is that the time at which max. **contrast** enhancement occurs for MRI can be varied by the choice of **liposome phospholipid** compn. ESR techniques were used to directly det. the state of Mn2+ and the integrity of **liposomes** in various stages of processing.

IT **13699-48-4 2644-64-6**
RL: ANST (Analytical study)
(liposomes contg., manganese encapsulated in, for liver proton relaxation studies, liposome compn. in relation to)

RN 13699-48-4 HCAPLUS
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



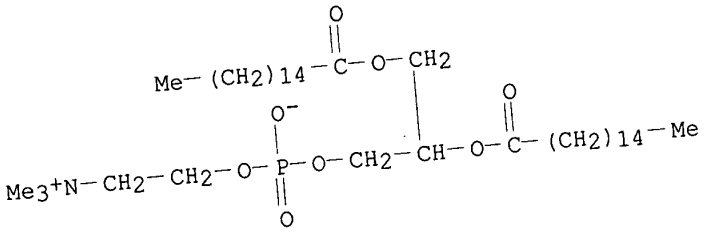
=> d ibib abs hitstr 12

L15 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:53834 HCAPLUS
DOCUMENT NUMBER: 110:53834
TITLE: Entrapment of **gadolinium**-DTPA in liposomes: characterization of vesicles by phosphorus-31 NMR spectroscopy
AUTHOR(S): Devoisselle, J. M.; Vion-Dury, J.; Galons, J. P.; Confort-Gouny, S.; Coustaut, D.; Canioni, P.; Cozzone, P. J.
CORPORATE SOURCE: Lab. Biol. Cellul. Gen., Fac. Pharm., Lille, Fr.
SOURCE: Invest. Radiol. (1988), 23(10), 719-24
CODEN: INVRAV; ISSN: 0020-9996
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Liposomes** (50 .+-. 20 nm) were prepd. by sonicating a soln. of dipalmitoylphosphatidylcholine and **cholesterol** contg. 16.5 mM Gd-DTPA in pharmaceutical formulation (Schering Labs., France) and 25 mM inorg. phosphate (Pi). The solns. were dialyzed against 0.9% NaCl before anal. by 31P NMR spectroscopy. Spectra of **liposomes** displayed a sharp resonance ascribed to Pi and a broad signal arising from the phosphate groups of the **phospholipid** bilayer. The content of Gd-DTPA in **liposomes** was directly estd., based on specific modifications of the longitudinal relaxation rate of intraliposomal Pi. Entrapment ratio was estd. by 31P NMR spectroscopy and at. absorption spectroscopy to represent 2.5-5% of the initial Gd-DTPA content in the soln. This work illustrates the usefulness of NMR spectroscopy in the characterization of **liposomes** to be used for MRI (magnetic resonance **imaging**) applications.

IT **2644-64-6**, Dipalmitoylphosphatidylcholine
RL: BIOL (Biological study)
(**liposomes** contg., **gadolinium**-DTPA entrapment in, phosphorus-31 NMR spectroscopy in characterization of, NMR **imaging** in relation to)

RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



=> d ibib abs hitstr 13

L15 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:576368 HCAPLUS
DOCUMENT NUMBER: 109:176368
TITLE: Delivery vehicles with amphiphile-associated active ingredient, for drugs and diagnostic agents
INVENTOR(S): Eley, Crispin George Stewart; Schmidt, Paul Gardner; Fujii, Gary
PATENT ASSIGNEE(S): Vestar, Inc., USA
SOURCE: Eur. Pat. Appl., 26 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 272091	A2	19880622	EP 1987-311040	19871215
EP 272091	A3	19881012		
EP 272091	B1	19930526		
EP 272091	B2	19981028		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
DK 8706511	A	19880616	DK 1987-6511	19871211
AU 8782494	A1	19880616	AU 1987-82494	19871214
AU 608264	B2	19910328		
NO 8705194	A	19880616	NO 1987-5194	19871214
NO 171583	B	19921228		
NO 171583	C	19930407		
CA 1319614	A1	19930629	CA 1987-554194	19871214
JP 63233915	A2	19880929	JP 1987-317282	19871215
AT 89717	E	19930615	AT 1987-311040	19871215
ES 2056832	T3	19941016	ES 1987-311040	19871215
US 5320906	A	19940614	US 1991-842271	19911220
			US 1986-942093	19861215
			EP 1987-311040	19871215
			US 1989-342726	19890424
			US 1991-777468	19911016

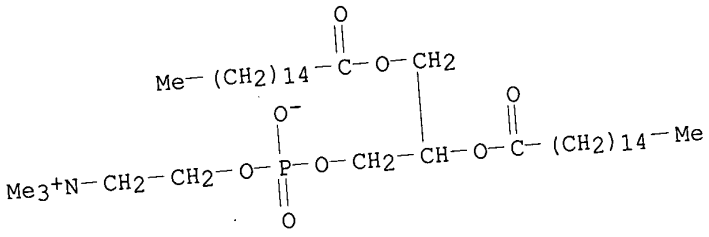
PRIORITY APPLN. INFO.:

AB Delivery vehicles, which are esp. useful in vivo, comprise an outer biocompatible encapsulating layer, an inner amphiphilic active ingredient-assocd. layer, and an active ingredient. The biocompatible delivery vehicles solubilize the active ingredient for in vivo delivery, and are useful in NMR imaging (MRI) and targeted drug delivery. **Magnetite** was solubilized by sonication of a mixt. of 5 mL of 8 mg/mL **magnetite** in phosphate buffer and 12 mg **palmitic** acid at 80 W at 66.degree. for 15 min. The suspension was added to 104 mg 2:1 distearoylphosphatidylcholine-**cholesterol** lipid film and the mixt. was sonicated under the same conditions. The suspension was injected into mice. Examn. of excised liver, tumor, and spleen showed that the **magnetite** delivery vehicles are removed from the bloodstream over a period of hours, compared to other coated or uncoated **magnetite** particles which are typically eliminated from the blood in approx. 5 min. In dose dependence studies of tissue relaxation times on tissues excised 24 h after injection, tumor results showed that at low doses all the **magnetite** arriving at the tumor is solubilized but at higher doses the mechanism for solubilizing the particles is satd. and intact particles cause T2 relaxation enhancement. There is no significant T1 enhancement for liver and blood although T2 enhancement is obsd.; this

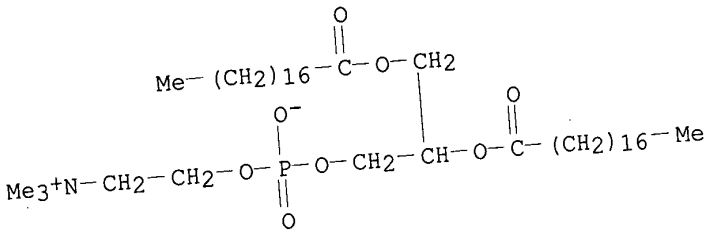
is consistent with intact particles. For the spleen, the form of the dose-dependence suggests some dissoln. of particles, without satn. of the mechanism for solubilizing them.

IT **2644-64-6 4539-70-2**, Distearoylphosphatidylcholine
13699-48-4, Dimyristoylphosphatidylcholine
RL: BIOL (Biological study)
(pharmaceutical vesicles contg. amphiphiles and, for delivery of drugs or diagnostic agents)

RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 13699-48-4 HCAPLUS

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L24 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:817472 HCAPLUS
DOCUMENT NUMBER: 133:366436
TITLE: Amidino compounds and drug carriers containing them
INVENTOR(S): Shimizu, Kazuhiro; Koiwai, Kazutomo; Isozaki, Masashi
PATENT ASSIGNEE(S): Terumo Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

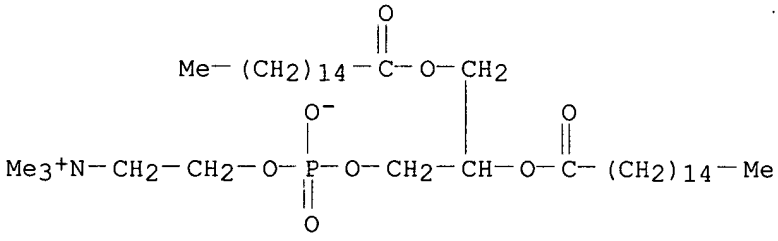
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000319200	A2	20001121	JP 1999-129460	19990511

OTHER SOURCE(S): MARPAT 133:366436

AB This present invention relates to amidino compds. and use thereof as an ingredient for drug carriers in the forms of macromols., microaggregates, microparticles, microspheres, nanospheres, **liposomes**, or emulsions. For example, .alpha.-(5-cholesten-3.beta.-oxy)-4-amidinotoluene hydrochloride (prepn. given) 3, dipalmitoylphosphatidylcholine 21, and **cholesterol** 6 .mu.mol were dissolved in 1 mL CHCl4 to form lipoid membranes, to which 0.5 .mu.mol calcein in Tris buffer soln. was added to form **liposome** dispersion solns.

IT **2644-64-6**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(drug carriers contg. amidino compds. and phospholipids)

RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



=> d ibib abs hitstr 2

L24 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:388077 HCAPLUS
DOCUMENT NUMBER: 131:49446
TITLE: Drug delivery system with two-step targeting
INVENTOR(S): Edwards, Katarina; Carlsson, Jorgen; Sjoberg, Stefan
PATENT ASSIGNEE(S): Swed.
SOURCE: PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9929302	A1	19990617	WO 1998-SE2231	19981204
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
SE 9704549	A	19990606	SE 1997-4549	19971205
SE 513149	C2	20000717		
AU 9917938	A1	19990628	AU 1999-17938	19981204
EP 1033972	A1	20000913	EP 1998-962780	19981204
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001525356	T2	20011211	JP 2000-523974	19981204

PRIORITY APPLN. INFO.: SE 1997-4549 A 19971205
WO 1998-SE2231 W 19981204

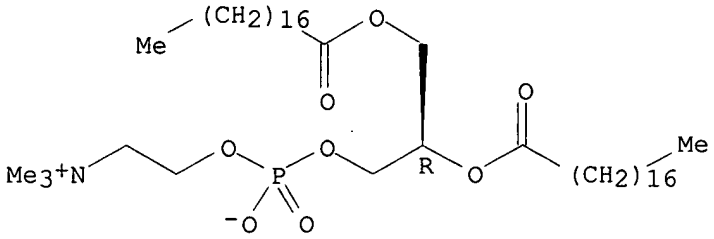
AB The present invention relates to a drug delivery system with two-step targeting, which comprises a combination: (a) a lipid carrier provided with cell targeting agent(s) to target the drug delivery system to specific cells or tissues; and (b) a drug enclosed in said lipid carrier and provided with a **DNA** targeting agent to target the drug to the nuclei of specific target cells. Furthermore, the invention relates to a method of cancer therapy in which the above drug delivery system is administered to a cancer patient. The goal is to treat or analyze both large tumor masses as well as small tumor cell clusters and single spread tumor cells. According to the invention, drug uptake in tumors will be markedly increased at the same time as the interaction of the drug with healthy organs and tissues can be minimized. The invention gives potential to convert palliative into curative treatment.

IT **816-94-4**, 1,2-Distearoyl-sn-glycero-3-phosphocholine
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(antitumor drug delivery system with two-step targeting)

RN 816-94-4 HCAPLUS

CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr 3

L24 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:317194 HCAPLUS
DOCUMENT NUMBER: 130:343017
TITLE: Method of inhibiting side effects of pharmaceutical compositions containing amphiphilic vehicles or drug carrier molecules
INVENTOR(S): Szebeni, Janos; Alving, Carl R.
PATENT ASSIGNEE(S): Walter Reed Army Institute of Research, USA
SOURCE: PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

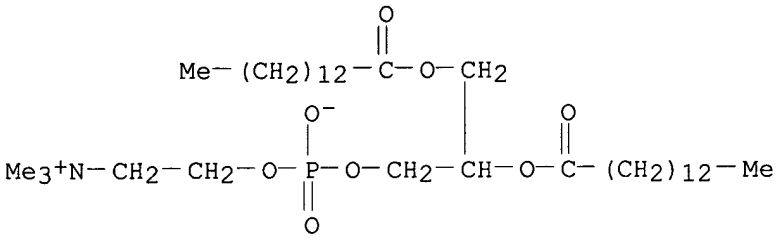
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9922759	A1	19990514	WO 1998-US23280	19981030
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9912978	A1	19990524	AU 1999-12978	19981030
EP 996461	A1	20000503	EP 1998-956455	19981030
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1997-63876 P 19971031
WO 1998-US23280 W 19981030

AB Toxicity and other unwanted effects caused by (a) solvents or emulsifiers for pharmaceuticals which contain amphiphilic mols. such as polyethoxylated oils or (b) drug vehicles contg. amphiphilic mols. such as phospholipids are inhibited or prevented by use of a complement inhibitor such as sol. complement receptor type 1. Thus, Cremophor EL (polyethoxylated castor oil) and phospholipid **liposomes**, used in taxol formulations, caused significant complement activation in human serum by both classical and alternative pathways; this effect was potentiated by EtOH in the formulations. Injection of large multilamellar phosphatidylcholine-phosphatidylglycerol-**cholesterol** **liposomes** or **liposome**-encapsulated Hb into pigs induced pulmonary hypertension and a large increase in plasma level of TXB2 (the stable metabolite of TXA2); these effects were inhibited by murine anti-porcine complement C5a antibody GS1 (1.6 mg/kg), recombinant sol. complement receptor type 1 (0.2 or 2 mg/kg), or the cyclooxygenase inhibitor, indomethacin (5 mg/kg).

IT **18656-38-7**
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**liposomes** contg.; method of inhibiting side effects of pharmaceutical compns. contg. amphiphilic vehicles or drug carrier mols.)

RN 18656-38-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



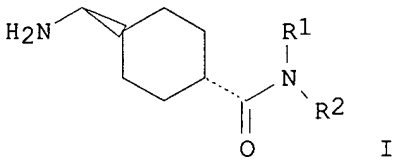
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr 4

L24 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:287437 HCAPLUS
DOCUMENT NUMBER: 129:45331
TITLE: Drug carriers comprising tranexamic acid derivatives
INVENTOR(S): Isozaki, Masashi; Koiwai, Kazumichi; Uchiyama, Hideki
PATENT ASSIGNEE(S): Terumo Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10120595	A2	19980512	JP 1996-273425	19961016

OTHER SOURCE(S): MARPAT 129:45331
GI



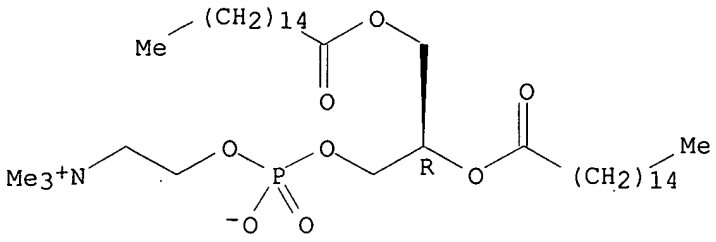
I

AB The carriers, useful for including agents for diagnosis and/or treatment in them, comprise tranexamic acid derivs. I (R1, R2 = H, C10-25 alkyl, alkenyl). Condensation of trans-4-[N-(benzyloxycarbonyl)-aminomethyl]cyclohexanecarboxylic acid with dioctadecylamine followed by deprotection gave N,N-dioctadecyl-trans-4-(aminomethyl)cyclohexanecarboxamide (II). II showed LD50 of .gtoreq.320 mg/kg i.v. in mice. **Liposomes** were prepd. from I 3, dipalmitoylphosphatidylcholine 21, and **cholesterol** 6 .mu.M as membrane constituents and 0.5 .mu.M calcein. Incorporation of calcein into the **liposomes** was 45.47%.

IT **63-89-8**, Dipalmitoylphosphatidylcholine **18194-25-7**, Dilauroylphosphatidylcholine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of tranexamic acid derivs. as drug carriers for disease diagnosis and treatment)

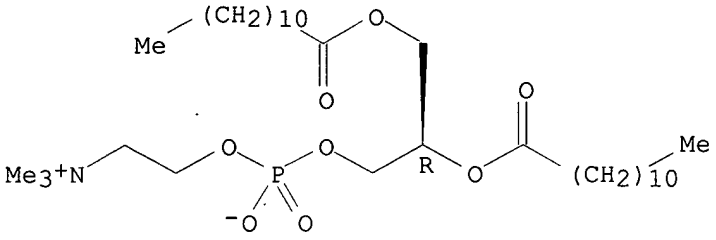
RN 63-89-8 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 18194-25-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheneicosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxododecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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L24 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:354033 HCAPLUS
DOCUMENT NUMBER: 126:334373
TITLE: Antiatherogenic **liposomal** compositions and methods of using them
INVENTOR(S): Williams, Kevin Jon
PATENT ASSIGNEE(S): Williams, Kevin Jon, USA
SOURCE: PCT Int. Appl., 141 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

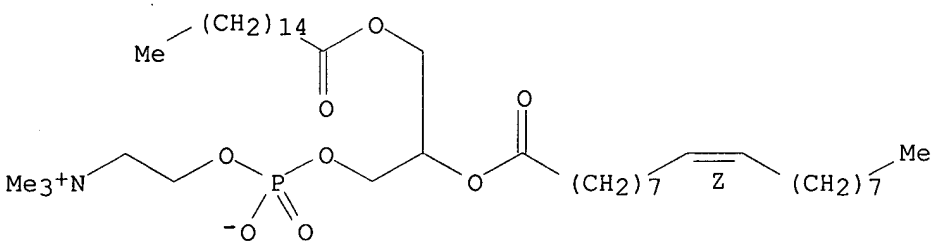
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9713501	A1	19970417	WO 1996-US16388	19961011
W: AU, CA, CN, JP, MX, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2231547	AA	19970417	CA 1996-2231547	19961011
AU 9675956	A1	19970430	AU 1996-75956	19961011
EP 863748	A1	19980916	EP 1996-938625	19961011
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1228018	A	19990908	CN 1996-198729	19961011
US 6080422	A	20000627	US 1996-731256	19961011
US 2001009670	A1	20010726	US 1998-60611	19980415
US 2001038845	A1	20011108	US 1998-60715	19980415
US 2002022053	A1	20020221	US 2001-790232	20010221

PRIORITY APPLN. INFO.:
US 1995-5090 P 19951011
US 1996-728766 A3 19961011
WO 1996-US16388 W 19961011
US 1998-60644 B3 19980415

AB The present invention provides a **liposomal** compn., method of using a **liposomal** compn., and devices and modes of operation of the devices and of the compns., and kits related thereto. The invention provides for the reverse transport of **cholesterol** from peripheral tissues to the liver in a warm blooded mammal while controlling plasma atherogenic lipoprotein concns., including LDL concns. The method and mode of operation of the devices includes the step of administering an effective amt. of a multiplicity of acceptors comprised of phospholipids substantially free of **sterol**. The method optionally includes the step of periodically assaying atherogenic lipoprotein concns. with an assay during the treatment period to assess atherogenic lipoprotein concns. and obtain an atherogenic lipoprotein profile, and adjusting the administration in response to said profile. The large **liposomes** are dimensioned larger than fenestrations of an endothelial layer lining hepatic sinusoids in the liver so that the **liposomes** are too large to readily penetrate the fenestrations of one variant. The therapeutically effective amts. are in the range of about 10 mg to about 1600 mg phospholipid per kg body wt. per dose. A pharmaceutical compn. and related kit for mobilizing peripheral **cholesterol** and sphingomyelin that enters the liver of a subject consisting essentially of **liposomes** of a size and shape larger than fenestrations of an endothelial layer lining hepatic sinusoids in the liver is also provided. The invention also provides for control of **cholesterol** related **genes** and other compds.

IT **26662-91-9**, Palmitoyloleoylphosphatidylcholine
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(antiatherogenic **liposomal** compns. and methods of using them)
RN 26662-91-9 HCAPLUS
CN 3,5,8-Trioxa-4-phosphahexacos-17-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-9-oxo-7-[[(1-oxohexadecyl)oxy]methyl]-, inner salt, 4-oxide, (17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



=> d ind 5

L24 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2002 ACS
IC ICM A61K009-127
ICS C12N015-79; A61M001-14; A61M025-00
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 8, 9
ST antiatherosclerotic **liposome** formulation **cholesterol** transport liver
IT Phospholipids, biological studies
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(-protein complexes; antiatherogenic **liposomal** compns. and methods of using them)
IT **Genes** (animal)
RL: BOC (Biological occurrence); BPR (Biological process); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(LDL receptor-encoding; antiatherogenic **liposomal** compns. and methods of using them)
IT **Imaging**
(acoustic; antiatherogenic **liposomal** compns. and methods of using them)
IT Proteins (specific proteins and subclasses)
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(amphipathic; antiatherogenic **liposomal** compns. and methods of using them)
IT Bile
Feces
(anal. of; antiatherogenic **liposomal** compns. and methods of using them)
IT Angioplasty
Antiatherosclerotics
Artery
Blood analysis

Calcium channel blockers
Cell aging
Chelating agents
Diagnosis
Dialyzers
Emulsions (drug delivery systems)
Hemodialysis
Hepatocyte
Hypolipemic agents
Imaging
Injections (drug delivery systems)
Kupffer cell
Liposomes (drug delivery systems)
Peritoneal dialysis
Sound and Ultrasound
Transdermal drug delivery systems
Uptake (biological)
(antiatherogenic **liposomal** compns. and methods of using them)

IT Bile acids
RL: ANT (Analyte); ANST (Analytical study)
(antiatherogenic **liposomal** compns. and methods of using them)

IT Antioxidants
RL: BAC (Biological activity or effector, except adverse); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(antiatherogenic **liposomal** compns. and methods of using them)

IT Sphingomyelins
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(antiatherogenic **liposomal** compns. and methods of using them)

IT Carotenes, biological studies
Tocopherols
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(antiatherogenic **liposomal** compns. and methods of using them)

IT Apolipoprotein A-I
Apolipoprotein A-II
Apolipoprotein A-IV
Apolipoprotein E
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(antiatherogenic **liposomal** compns. and methods of using them)

IT Gel-permeation chromatography
Ultracentrifugation
(assays; antiatherogenic **liposomal** compns. and methods of using them)

IT Carotid artery
Coronary artery
(blood flow in; antiatherogenic **liposomal** compns. and methods of using them)

IT Heart
(catheterization; antiatherogenic **liposomal** compns. and methods of using them)

IT High-density lipoproteins
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**cholesterol** acceptors; antiatherogenic **liposomal** compns. and methods of using them)

IT Liver
(**cholesterol** transport to; antiatherogenic **liposomal**

compns. and methods of using them)
IT LDL receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**gene** encoding; antiatherogenic **liposomal** compns. and methods of using them)
IT Leukocyte
(hepatic **gene** expression in; antiatherogenic **liposomal** compns. and methods of using them)
IT Turbidimetry
(immunoassay; antiatherogenic **liposomal** compns. and methods of using them)
IT Immunoassay
(immunoturbidimetry; antiatherogenic **liposomal** compns. and methods of using them)
IT Polyoxyalkylenes, biological studies
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**liposomes**; antiatherogenic **liposomal** compns. and methods of using them)
IT Endothelium
(liver sinusoid, fenestrations of; antiatherogenic **liposomal** compns. and methods of using them)
IT **Liposomes**
(multilamellar; antiatherogenic **liposomal** compns. and methods of using them)
IT Transport (biological)
(of **cholesterol** to liver; antiatherogenic **liposomal** compns. and methods of using them)
IT Proteins (general), biological studies
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(phospholipid complexes; antiatherogenic **liposomal** compns. and methods of using them)
IT Dialysis
(rectal; antiatherogenic **liposomal** compns. and methods of using them)
IT Platelet (blood)
(regulators of; antiatherogenic **liposomal** compns. and methods of using them)
IT Apolipoprotein B
Intermediate-density lipoproteins
Low-density lipoproteins
Lysophosphatidic acids
Very low-density lipoproteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(regulators of; antiatherogenic **liposomal** compns. and methods of using them)
IT Liver
(sinusoid, endothelium, fenestrations of; antiatherogenic **liposomal** compns. and methods of using them)
IT Radionuclides
RL: ANT (Analyte); BOC (Biological occurrence); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(tracers, measurement of; antiatherogenic **liposomal** compns. and methods of using them)
IT **Liposomes**
(unilamellar; antiatherogenic **liposomal** compns. and methods of using them)

IT Very low-density lipoproteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(.beta.-, regulators of; antiatherogenic **liposomal** compns. and methods of using them)
IT 9046-59-7, Hydroxylase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(7-.alpha.-, **gene** controlling expression of; antiatherogenic **liposomal** compns. and methods of using them)
IT 57-88-5, **Cholesterol**, biological studies
RL: ADV (Adverse effect, including toxicity); BPR (Biological process); BIOL (Biological study); PROC (Process)
(antiatherogenic **liposomal** compns. and methods of using them)
IT 7440-70-2, Calcium, biological studies
RL: ANT (Analyte); BOC (Biological occurrence); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)
(antiatherogenic **liposomal** compns. and methods of using them)
IT 90880-94-7, Endothelium derived relaxing factor
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(antiatherogenic **liposomal** compns. and methods of using them)
IT 59-67-6, Nicotinic acid, biological studies 64-17-5, Ethanol, biological studies
RL: BAC (Biological activity or effector, except adverse); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(antiatherogenic **liposomal** compns. and methods of using them)
IT 10102-43-9, Nitric oxide, biological studies
RL: MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(antiatherogenic **liposomal** compns. and methods of using them)
IT 50-81-7, L-Ascorbic acid 60-00-4, Edta, biological studies 128-37-0, Bht, biological studies 1406-18-4, Vitamin e 23288-49-5, Probucol **26662-91-9**, Palmitoyloleoylphosphatidylcholine
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(antiatherogenic **liposomal** compns. and methods of using them)
IT 9001-62-1, Lipase 9001-85-8, Lysophospholipase 9027-63-8, ACAT
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(assessment of activity of; antiatherogenic **liposomal** compns. and methods of using them)
IT 9028-35-7
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**gene** encoding; antiatherogenic **liposomal** compns. and methods of using them)
IT 9013-79-0, Esterase
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(lipid, assessment of activity of; antiatherogenic **liposomal** compns. and methods of using them)
IT 25322-68-3
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**liposomes**; antiatherogenic **liposomal** compns. and methods of using them)

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L24 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:48717 HCAPLUS
DOCUMENT NUMBER: 126:54891
TITLE: **Nucleic** acid ligand complexes
INVENTOR(S): Gold, Larry; Schmidt, Paul G.; Janjic, Nebojsa
PATENT ASSIGNEE(S): Nexstar Pharmaceuticals, Inc., USA; Gold, Larry; Schmidt, Paul G.; Janjic, Nebojsa
SOURCE: PCT Int. Appl., 107 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 106
PATENT INFORMATION:

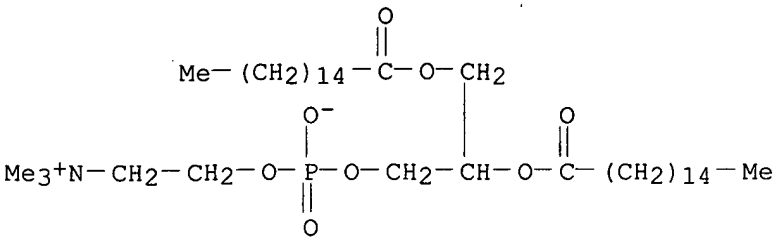
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9634876	A1	19961107	WO 1996-US6171	19960502
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA				
US 6011020	A	20000104	US 1995-434465	19950504
AU 9657231	A1	19961121	AU 1996-57231	19960502
AU 728176	B2	20010104		
EP 824541	A1	19980225	EP 1996-915463	19960502
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 11504926	T2	19990511	JP 1996-533500	19960502
US 6147204	A	20001114	US 1997-945604	19971028

PRIORITY APPLN. INFO.:
US 1995-434465 A 19950504
US 1995-464443 A 19950605
US 1990-536428 B2 19900611
US 1991-714131 A2 19910610
US 1994-234997 A2 19940428
WO 1996-US6171 W 19960502

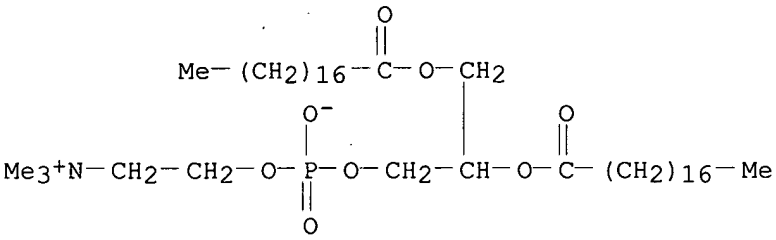
AB This invention discloses a method for prepg. a therapeutic or diagnostic complex comprised of a **nucleic** acid ligand and a lipophilic compd. or non-immunogenic, high mol. wt. compd. by identifying a **nucleic** acid ligand by SELEX (Systematic Evolution of Ligands by EXponential enrichment) methodol. and assocg. the **nucleic** acid ligand with a lipophilic compd. or a non-immunogenic, high mol. wt. compd. The invention further discloses complexes comprising one or more **nucleic** acid ligands in assocn. with a lipophilic compd. or non-immunogenic, high mol. wt. compd.

IT **2644-64-6**, Dipalmitoylphosphatidylcholine **4539-70-2**, Distearoylphosphatidylcholine **18656-38-7**, Dimyristoylphosphatidylcholine
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**nucleic** acid ligand complexes for diagnostic and therapeutic purposes)

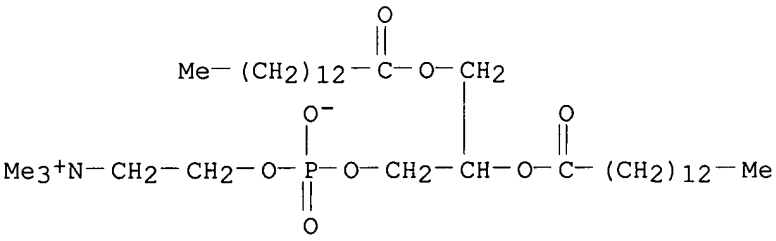
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 18656-38-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



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L24 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2002 ACS
IC ICM C07H021-02
ICS C07H021-04; C12P019-34; C12Q001-68
CC 1-12 (Pharmacology)
Section cross-reference(s): 33
ST **nucleic** acid ligand complex drug prepn
IT Albumins, biological studies
Diglycerides
Polyoxyalkylenes, biological studies
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(complexes; **nucleic** acid ligand complexes for diagnostic and

therapeutic purposes)

IT Diagnosis
(diagnostic agents; **nucleic** acid ligand complexes for diagnostic and therapeutic purposes)

IT Anticoagulants
Drugs
Liposomes (drug delivery systems)
(**nucleic** acid ligand complexes for diagnostic and therapeutic purposes)

IT Ligands
Nucleic acids
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**nucleic** acid ligand complexes for diagnostic and therapeutic purposes)

IT Transport (biological)
(of **liposomes; nucleic** acid ligand complexes for diagnostic and therapeutic purposes)

IT 173432-85-4P 173432-86-5P 185159-56-2P 185159-57-3P 185159-58-4P
185159-59-5P 185159-60-8P 185159-61-9P 185159-62-0P 185159-64-2P
185159-65-3P 185159-66-4P 185159-68-6P 185159-69-7P 185159-70-0P
185159-71-1P 185159-72-2P 185229-97-4P 185229-98-5P 185262-10-6P
185262-12-8P 185262-13-9P 185262-14-0P
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(**nucleic** acid ligand complexes for diagnostic and therapeutic purposes)

IT 9005-49-6DP, Heparin, conjugates
RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**nucleic** acid ligand complexes for diagnostic and therapeutic purposes)

IT **2644-64-6**, Dipalmitoylphosphatidylcholine **4539-70-2**, Distearoylphosphatidylcholine **18656-38-7**, Dimyristoylphosphatidylcholine 144189-73-1, Dotap
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**nucleic** acid ligand complexes for diagnostic and therapeutic purposes)

IT 57-88-5D, **Cholesterol**, complexes 1309-38-2D, **Magnetite**, complexes 9004-54-0D, Dextran, complexes 25322-68-3D, complexes
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**nucleic** acid ligand complexes for diagnostic and therapeutic purposes)

IT 5681-36-7P, Dipalmitoyl phosphatidylethanolamine
RL: PUR (Purification or recovery); RCT (Reactant); PREP (Preparation)
(**nucleic** acid ligand complexes for diagnostic and therapeutic purposes)

IT 74-89-5, Methylamine, reactions 75-44-5, Carbonic dichloride 85-41-6, Phthalimide 98-59-9, p-Toluenesulfonyl chloride 112-60-7 121-44-8, reactions 530-62-1 7087-68-5, Diisopropylethylamine 7719-12-2, Phosphorus trichloride 22323-82-6 40290-32-2 40615-36-9, 4,4'-Dimethoxytrityl chloride 89992-70-1, 2-Cyanoethyl-N,N-diisopropylchlorophosphoramidite 90737-00-1
RL: RCT (Reactant)
(**nucleic** acid ligand complexes for diagnostic and therapeutic

purposes)
IT 77544-60-6P, Tetraethylene glycol monotosylate 90331-86-5P
125607-06-9P 158041-84-0P 184718-00-1P 184718-01-2P 184718-02-3P
184718-03-4P 184718-04-5P 184718-05-6P 184718-06-7P 184718-07-8P
184718-08-9P 184718-09-0P 184718-10-3P 184718-11-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(**nucleic** acid ligand complexes for diagnostic and therapeutic purposes)
IT 184717-99-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(**nucleic** acid ligand complexes for diagnostic and therapeutic purposes)

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L24 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:546570 HCAPLUS
DOCUMENT NUMBER: 125:257179
TITLE: Preparation of **liposome** and lipid complex compositions
INVENTOR(S): Szoka, Francis C. Jr.
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: U.S., 19 pp., Cont.-in-part of U.S. 5,277,791.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5549910	A	19960827	US 1994-179291	19940110
US 5077057	A	19911231	US 1990-605155	19901029
US 5277914	A	19940111	US 1991-741937	19910808
US 5567434	A	19961022	US 1995-480227	19950607

PRIORITY APPLN. INFO.:

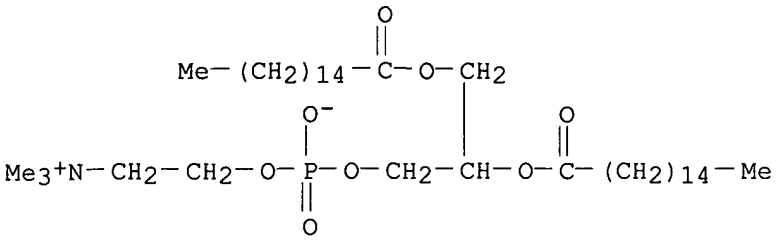
US 1989-332609	19890331
US 1989-334055	19890405
US 1990-605155	19901029
US 1991-741937	19910808
US 1994-179291	19940110

AB **Liposome** and lipidic particle formulations of compds. are prepd. by dissolving a soln. of **liposome**-forming lipids in an aprotic solvent such as DMSO, optionally contg. a lipid-solubilizing amt. of a lower alkanol, and either injecting the resulting soln. into an aq. soln., or the aq. soln. into the resulting soln. The resulting **liposome** or lipidic particle suspension may then be dialyzed or otherwise concd. This method is particularly useful for compds. which are poorly-sol. in aq. soln., but is generally useful for any compd. or combination of compds. which can be dissolved in the aprotic solvent or aprotic solvent/lower alkanol mixt. Doxorubicin (I) was dissolved in DMSO and added to an ethanol soln. of egg phosphatidylglycerol, egg phosphatidylcholine, and **cholesterol** (7:3:6) to yield a final I concn. of 6.2 mM and a final total lipid concn. of 96.4 mM in DMSO:EtOH (7:3) solvent mixt. Lipid vesicles were formed by injecting 1 mL of the above mixt. into 2 mL of an aq. phase consisting of 140 mM NaCl, 10 mM Tris-HCl, pH 4.0, at 30.degree.. The lipid suspension was dialyzed against Tris buffer and the **liposome**-encapsulated I was sepd. from the nonencapsulated material by column chromatog. The resulting vesicle diam. was 227 nM and 41.2 % of the I was encapsulated in the vesicles.

IT **2644-64-6**, Dipalmitoylphosphatidylcholine **13699-48-4**, Dimyristoylphosphatidylcholine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of **liposomes** and lipid complex compns.)

RN 2644-64-6 HCAPLUS

CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 13699-48-4 HCAPLUS

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L24 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2002 ACS
IC ICM A61K009-127
ICS A61K051-02; B01J013-02; B01J013-20
NCL 424450000
CC 63-6 (Pharmaceuticals)
ST **liposome** lipid aprotic solvent drug encapsulation; doxorubicin phosphatidylcholine phosphatidylglycerol **cholesterol** DMSO encapsulation
IT Antibiotics
Chelating agents
Fluorescent substances
Spin labels
Virucides and Virustats
(prepn. of **liposomes** and lipid complex compns.)
IT Amino acids, biological studies
Carbohydrates and Sugars, biological studies
Deoxyribonucleic acids
Interferons
Nucleotides, biological studies
Peptides, biological studies
Radioelements, biological studies
Ribonucleic acids
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of **liposomes** and lipid complex compns.)
IT Acids, biological studies
Bases, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(weak; prepn. of **liposomes** and lipid complex compns.)
IT Radiography
(**contrast agents**, prepn. of **liposomes** and lipid complex compns.)
IT Phosphatidylcholines, biological studies
Phosphatidylglycerols
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(egg yolk, prepn. of **liposomes** and lipid complex compns.)
IT Lymphokines and Cytokines
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(interleukin 1, prepn. of **liposomes** and lipid complex compns.)
IT Lymphokines and Cytokines
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(interleukin 2, prepn. of **liposomes** and lipid complex compns.)

IT Pharmaceutical dosage forms
(**liposomes**, aprotic solvents and lipids in prepn. of **liposomes** and lipid complex compns.)

IT Glycopeptides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(muramic acid-contg., prepn. of **liposomes** and lipid complex compns.)

IT **Nucleotides**, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(oligo-, prepn. of **liposomes** and lipid complex compns.)

IT Magnetic substances
(para-, prepn. of **liposomes** and lipid complex compns.)

IT Phosphatidylcholines, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(soya, hydrogenated, prepn. of **liposomes** and lipid complex compns.)

IT Animal growth regulators
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(.alpha.-transforming growth factors, prepn. of **liposomes** and lipid complex compns.)

IT Animal growth regulators
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(.beta.-transforming growth factors, prepn. of **liposomes** and lipid complex compns.)

IT 64-17-5, Ethanol, biological studies 67-56-1, Methanol, biological studies 67-68-5, Dimethylsulfoxide, biological studies 68-12-2, Dimethylformamide, biological studies 75-05-8, Acetonitrile, biological studies 96-48-0, .gamma.-Butyrolactone 120-94-5 123-91-1, Dioxane, biological studies 126-33-0, Sulfolane 127-19-5, Dimethylacetamide 872-50-4, 1-Methyl-2-pyrrolidinone, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(as aprotic solvent; prepn. of **liposomes** and lipid complex compns.)

IT 9015-94-5, Renin, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitors; prepn. of **liposomes** and lipid complex compns.)

IT 50-56-6, Oxytocin, biological studies 57-88-5, **Cholesterol**, biological studies 1256-86-6, **Cholesterol** sulfate 1510-21-0, **Cholesterol** hemisuccinate **2644-64-6**, Dipalmitoylphosphatidylcholine 4358-16-1, **Cholesterol** phosphate 9004-10-8, Insulin, biological studies 9007-12-9, Calcitonin 9034-40-6, Luteinizing hormone-releasing hormone 9054-89-1, Superoxide dismutase 12629-01-5, Human growth hormone **13699-48-4**, Dimyristoylphosphatidylcholine 23214-92-8, Doxorubicin 37205-61-1, Protease inhibitor 61361-72-6, Dimyristoylphosphatidylglycerol 62229-50-9, Epidermal growth factor 62683-29-8, Colony-stimulating factor 65956-64-1, Cholesteryl phosphocholine 75014-44-7
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of **liposomes** and lipid complex compns.)

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L24 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:369786 HCAPLUS
DOCUMENT NUMBER: 125:41790
TITLE: Preparation of multivesicular **liposomes** for controlled release of active agents
INVENTOR(S): Sankaram, Mantripragada B.; Kim, Sinil
PATENT ASSIGNEE(S): Depotech Corporation, USA
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9608235	A1	19960321	WO 1995-US11609	19950913
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5993850	A	19991130	US 1994-305158	19940913
CA 2199004	AA	19960321	CA 1995-2199004	19950913
AU 9535115	A1	19960329	AU 1995-35115	19950913
AU 697484	B2	19981008		
EP 781123	A1	19970702	EP 1995-931820	19950913
R: DE, GB				
CN 1166136	A	19971126	CN 1995-196186	19950913
BR 9508913	A	19971230	BR 1995-8913	19950913
JP 3026271	B2	20000327	JP 1996-510312	19950913
JP 10502667	T2	19980310		
FI 9701037	A	19970512	FI 1997-1037	19970312
NO 9701149	A	19970513	NO 1997-1149	19970312

PRIORITY APPLN. INFO.: US 1994-305158 A 19940913
WO 1995-US11609 W 19950913

AB A process for producing multivesicular **liposomes** (MVL's) for controlled release of biol. active substances comprise (1) forming a water-in-oil emulsion from two immiscible components, a lipid component contg. org. solvent, an amphiphilic lipid and a neutral lipid, and a first aq. component contg. an active substance, (2) dispersing the emulsion into a second aq. component to form solvent spherules, and (3) removing the org. solvent from the solvent spherules to form the multivesicular **liposomes**. The osmolarity of the first aq. component is chosen to modulate the rate of release from multivesicular **liposomes** into a physiol. aq. environment. The rate of release of the active substance can be decreased by increasing the osmolarity of the first aq. component or increased by decreasing the osmolarity.

IT **10015-85-7**, Dioleoyl phosphatidylcholine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of multivesicular **liposomes** for controlled release of active agents)

RN 10015-85-7 HCAPLUS

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L24 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2002 ACS
IC ICM A61K009-127
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 5, 62
ST multivesicular **liposome** controlled drug release
IT Glycosides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cardiac; prepn. of multivesicular **liposomes** for controlled release of active agents)
IT Agitation (mechanical)
Analgesics
Antiarrhythmics
Antibiotics
Antidiabetics and Hypoglycemics
Antihistaminics
Antihypertensives
Antihypotensives
Atomization, spraying
Cosmetics
Fungicides and Fungistats
Herbicides
Hypnotics and Sedatives
Immunomodulators
Insecticides
Neoplasm inhibitors
Parasiticides
Perfumes
Pesticides
Sound and Ultrasound
Tranquilizers and Neuroleptics
Vaccines
Virucides and Virustats
(prepn. of multivesicular **liposomes** for controlled release of active agents)
IT Cardiolipins
Esters, biological studies
Ethers, biological studies
Hormones
Hydrocarbons, biological studies
Lysophosphatidylcholines
Monosaccharides
Nucleic acids
Peptides, biological studies
Phosphatidic acids
Phosphatidylcholines, biological studies
Phosphatidylethanolamines
Phosphatidylglycerols
Phosphatidylinositols
Phosphatidylserines
Phospholipids, biological studies
Polymers, biological studies
Polysaccharides, biological studies
Proteins, biological studies
Radioelements, biological studies
Sphingomyelins
Steroids, biological studies
Tocopherols
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(prepn. of multivesicular **liposomes** for controlled release of active agents)

IT **Nucleic** acids
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(analogs, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT Bronchodilators
(antiasthmatics, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT Hydrocarbons, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(chloro fluoro, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT Radiography
(**contrast agents**, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT Oligosaccharides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(di-, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT Hydrocarbons, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(halo, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT Ethers, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(haloalkyl, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT Steroids, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hydroxy, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT Pharmaceutical dosage forms
(**liposomes**, controlled-release, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT Cosmetics
(moisturizers, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT Antibodies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(monoclonal, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT Neurohormones
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(neurotransmitters, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT Drying
(spray, prepn. of multivesicular **liposomes** for controlled release of active agents)

IT 50-70-4, Sorbitol, biological studies 50-99-7, D Glucose, biological studies 56-40-6, Glycine, biological studies 56-87-1, Lysine, biological studies 57-50-1, Sucrose, biological studies 57-88-5, **Cholesterol**, biological studies 59-23-4, D Galactose, biological studies 69-65-8, Mannitol 69-79-4, Maltose 71-00-1, Histidine, biological studies 74-79-3, Arginine, biological studies 77-92-9, Citric acid, biological studies 99-20-7, Trehalose 110-15-6, Succinic acid, biological studies 111-02-4, Squalene 122-32-7, Triolein 124-30-1, Stearylamine 124-38-9, Carbon dioxide, biological studies 147-94-4, Cytarabine 538-23-8, Tricaprylin 3458-28-4, D Mannose 4537-77-3, Dipalmitoyl phosphatidylglycerol 7647-14-5, Sodium chloride,

biological studies 7664-41-7, Ammonia, biological studies 9004-54-0, Dextran, biological studies **10015-85-7**, Dioleoyl phosphatidylcholine 12619-70-4, Cyclodextrin 37517-28-5, Amikacin 39831-55-5, Amikacin sulfate
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of multivesicular **liposomes** for controlled release of active agents)

=> d ibib abs hitstr 1

L25 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:906093 HCAPLUS
DOCUMENT NUMBER: 136:25134
TITLE: Use of ultrasound for delivering bioactive agents
INVENTOR(S): Unger, Evan C.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 38 pp., Cont.-in-part of U. S. Ser. No. 290,324.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2001051131	A1	20011213	US 1999-413110	19991006
US 6033645	A	20000307	US 1996-666129	19960619
WO 2001024705	A1	20010412	WO 2000-US27025	20000929

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

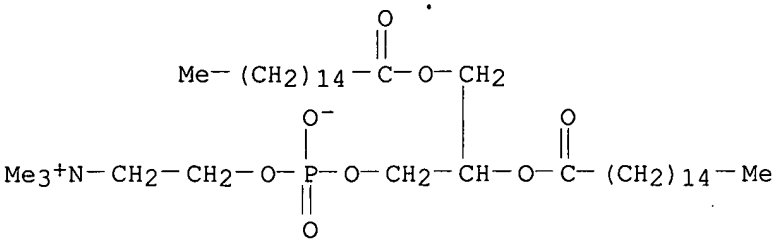
PRIORITY APPLN. INFO.:
US 1996-666129 A3 19960619
US 1999-290324 A2 19990412
US 1999-413110 A 19991006

AB Methods for enhancing the bioavailability of a bioactive agent in vivo is disclosed. Embodiments of the invention involve administering a bioactive agent and an acoustically active compn. to a patient. Ultrasound energy may be applied in an amt. sufficient to activate the acoustically active compn. In preferred form, the acoustically active compn. is administered to the patient at a rate which comprises continuous infusion. To a soln. of saline, propylene glycol and glycerol (8:1:1) were added dipalmitoylphosphatidyl-choline,dipalmitoylphosphatidylethanolamine-PEG5000 and dipalmitolylphosphatidic acid in a molar ratio of 82:8:10. The resulting mixt. was heated to about 45.degree., filtered, and cooled to room temp. The vial contg. the mixt. was placed under vacuum to evacuate any gas, after which the vial was pressurized with perfluoropropane (PFP). The vial was then sealed, placed on a shaker and agitated at room temp. to provide a soln. of PFP-filled vesicles having a mean diam. of about 2.5 mm. The soln. of PFP-vesicles was administered i.v. to a healthy human subject at a dose of about 10 mL per Kg of body wt., providing a vesicle dose of about 1.5x107 vesicles/Kg. After injection, a saline flush (5 mL) was administered in the same injection site. Transducers (2.5, 3.5 and 5.0 MHz) were used to image the heart region in both short-axis and long-axis views. After injection of the saline flush, the ultrasound image rapidly darkened until the heart was not visible due to severe shadowing. This severe shadowing lasted for a period of time of about 30 s to about 1 min. Upon dissipation of the shadowing, the ultrasound image revealed only transient contrast enhancement of the myocardial tissues.

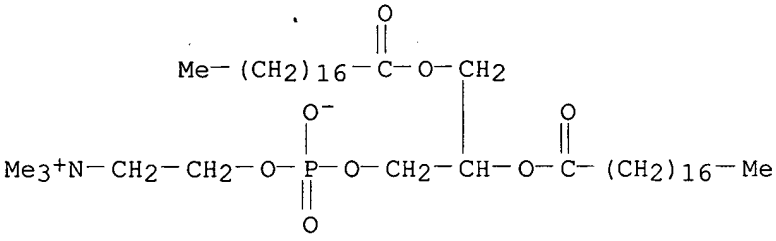
IT **2644-64-6**, Dipalmitoylphosphatidylcholine **4539-70-2**, Distearoylphosphatidylcholine. **18656-38-7**,

Dimyristoylphosphatidylcholine, **68737-67-7**,
Dioleoylphosphatidylcholine,
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study);
USES (Uses)
(use of ultrasound for delivering bioactive agents)

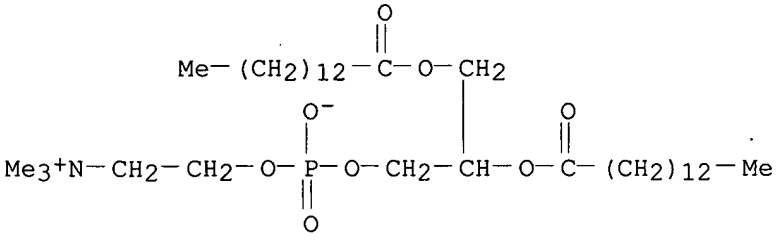
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



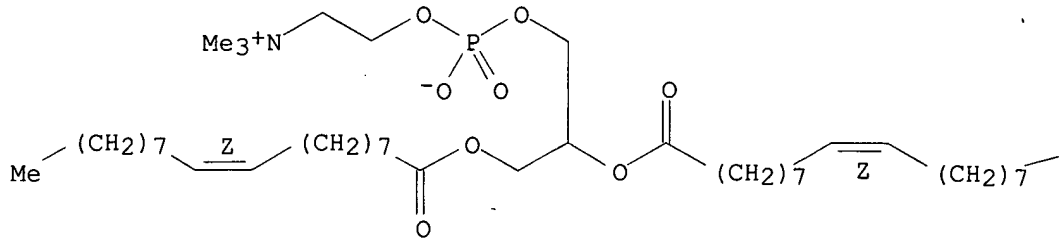
RN 18656-38-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 68737-67-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (18Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

Me

=> d ibib abs hitstr 2-13

L25 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:575639 HCAPLUS
DOCUMENT NUMBER: 135:284583
TITLE: Structures of lipid-**DNA** complexes: supramolecular assembly and **gene** delivery
AUTHOR(S): Safinya, C. R.
CORPORATE SOURCE: Materials Department, Physics Department and Biomolecular Science and Engineering Program, University of California, Santa Barbara, CA, 93106, USA
SOURCE: Curr. Opin. Struct. Biol. (2001), 11(4), 440-448
CODEN: COSBEF; ISSN: 0959-440X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with refs. Recently, there has been a flurry of exptl. work on understanding the supramol. assemblies that are formed when cationic **liposomes** (CLs) are mixed with **DNA**. From a biomedical point of view, CLs (vesicles) are empirically known to be carriers of **genes** (sections of **DNA**) in nonviral **gene** delivery applications. Although viral-based carriers of **DNA** are presently the most common method of **gene** delivery, nonviral synthetic methods are rapidly emerging as alternative carriers, because of their ease of prodn. and non-immunogenicity (viral carriers very often evoke an undesirable and potentially lethal immune response). At the moment, cationic-lipid-based carriers have emerged as the most popular nonviral method to deliver **genes** in therapeutic applications, for example, CL carriers are used extensively in clin. trials worldwide. However, because the mechanism of transfection (the transfer of **DNA** into cells by CL carriers, followed by expression) of CL-**DNA** complexes remains largely unknown, the measured efficiencies are, at present, very low. The low transfection efficiencies of current nonviral **gene** delivery methods are the result of poorly understood transfection-related mechanisms at the mol. and self-assembled

levels. Recently, work has been carried out on detg. the supramol. structures of CL-**DNA** complexes by the quant. technique of synchrotron X-ray diffraction. When **DNA** is mixed with CLs (composed of mixts. of cationic DOTAP and neutral DOPC lipids), the resulting CL-**DNA** complex consists of a multilamellar structure (L.alpha.C) comprising **DNA** monolayers sandwiched between lipid bilayers. The existence of a different columnar inverted hexagonal (HIIC) phase in CL-**DNA** complexes was also demonstrated using synchrotron X-ray diffraction. Ongoing functional studies and optical **imaging** of cells are expected to clarify the relationship between the supramol. structures of CL-**DNA** complexes and transfection efficiency.

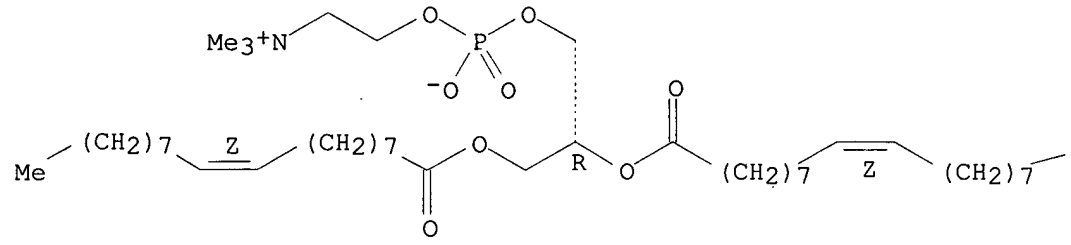
IT **4235-95-4D**, DOPC, **liposomes** contg., complexes with **DNA**
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(supramol. assembly and structure of, and **gene** delivery by, lipid-**DNA** complexes)

RN 4235-95-4 HCAPLUS

CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (7R,18Z)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

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REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:265217 HCAPLUS
DOCUMENT NUMBER: 134:285587
TITLE: Improved methods for delivering bioactive agents using vesicles and ultrasound energy
INVENTOR(S): Unger, Evan C.
PATENT ASSIGNEE(S): Imarx Therapeutics, Inc., USA
SOURCE: PCT Int. Appl., 114 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001024705	A1	20010412	WO 2000-US27025	20000929

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2001051131	A1	20011213	US 1999-413110	19991006

PRIORITY APPLN. INFO.:

US 1999-413110	A	19991006
US 1996-666129	A3	19960619
US 1999-290324	A2	19990412

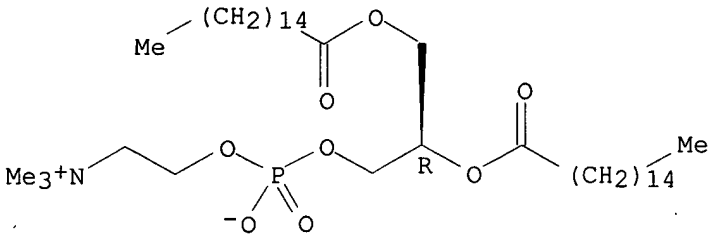
AB Methods for enhancing the bioavailability of a bioactive agent in vivo are disclosed. Embodiments of the invention involve administering a bioactive agent and an acoustically active compn. to a patient. Ultrasound energy may be applied in an amt. sufficient to activate the acoustically active compn. In preferred form, the acoustically active compn. is administered to the patient at a rate which comprises continuous infusion. To a soln. of saline, propylene glycol, and glycerol (8:1:1) were added dipalmitoyopyosphatidylcholine, dipalmitoylphyosphatidylethanolamine-polyethylene glycol-5000, and dipalmitoylphosphatidic acid in a molar ratio of 82:8:10. The resulting mixt. was heated to about 45.degree. and filtered. The filtered mixt. was placed in a vial and allowed to cool to room temp. The vial was placed under vacuum to evacuate any gas, after which the vial was pressurized with perfluoropropane gas. The vial was then sealed, placed on a shaker and agitated at room temp. to provide a soln. of perfluoropropane-filled vesicles having a mean diam. of about 2.5 .mu.m. The concn. of vesicles in the soln. was about 1.5x109 vesicle/mL.

IT **63-89-8**, Dipalmitoylphosphatidylcholine **816-94-4**, Distearoylphosphatidylcholine **4235-95-4 18194-24-6**, Dimyristoylphosphatidylcholine **68737-67-7**, Dioleoylphosphatidylcholine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(improved methods for delivering bioactive agents using vesicles and ultrasound energy)

RN 63-89-8 HCAPLUS

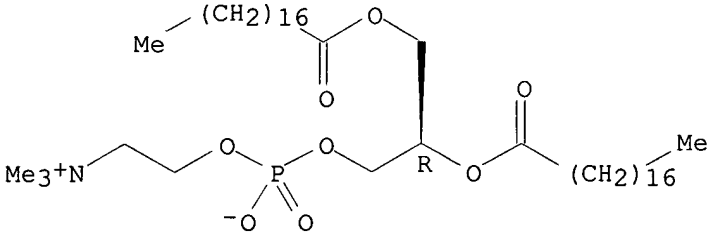
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 816-94-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

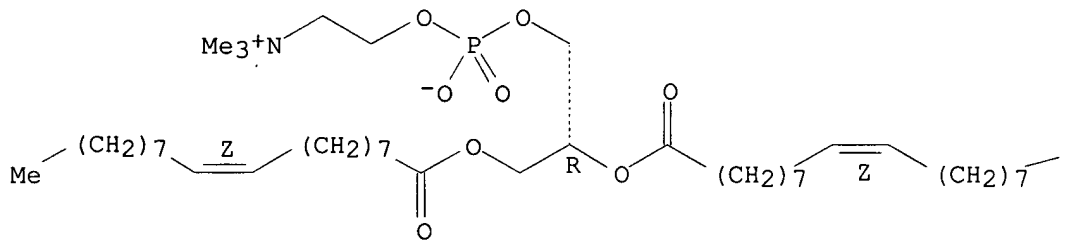
Absolute stereochemistry.



RN 4235-95-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (7R,18Z)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

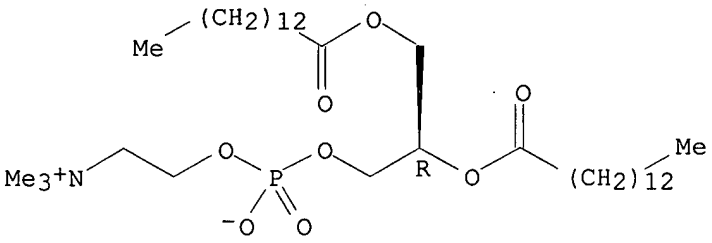
PAGE 1-A



PAGE 1-B

RN 18194-24-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

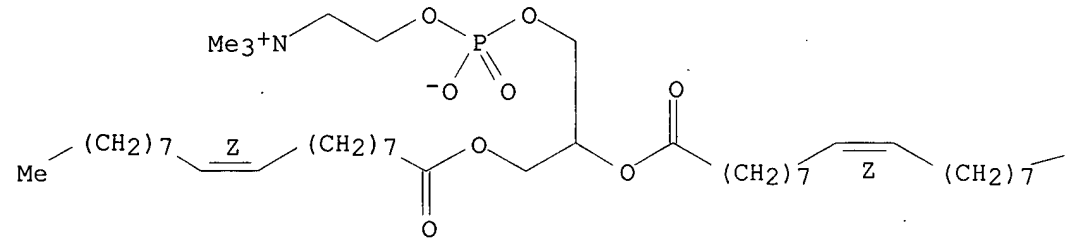
Absolute stereochemistry.



RN 68737-67-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (18Z)-(9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

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REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:344013 HCAPLUS
DOCUMENT NUMBER: 132:352801
TITLE: Enhancement of bioavailability by focused energy drug delivery to a target tissue
INVENTOR(S): Li, King; Bednarski, Mark
PATENT ASSIGNEE(S): The Board of Trustees of the Leland Stanford Junior University, USA
SOURCE: U.S., 18 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6066123	A	20000523	US 1998-57862	19980409

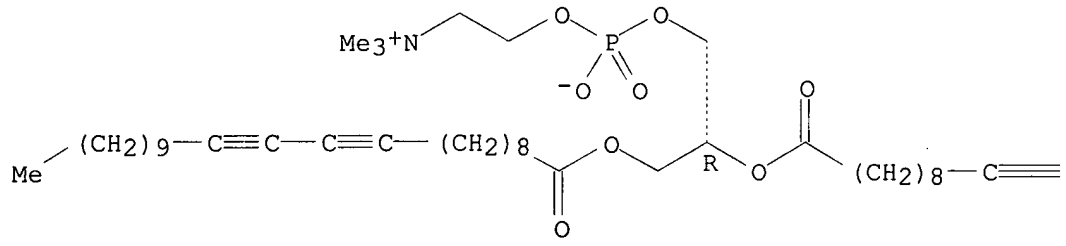
AB Targeted tissue in vivo is altered by using focused energy to specifically control endothelial permeability and interstitial integrity. Image guidance may be used in combination with phys. energy deposition to facilitate the targeted delivery of materials. The method of the invention serves as a platform for delivering pharmaceutical agents, **nucleic** acids, proteins, **liposomes**, etc., to cells. An i.v. injection of 0.1 mmol/kg of Gd-DTPA, 1-5 nm, was made and immediately a T1 Weighted Spin Echo magnetic resonance image was made. An enhancement corresponding to both hyperintense areas was obsd.

IT **76078-28-9**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(enhancement of bioavailability by focused energy drug delivery to target tissues)

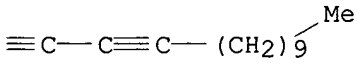
RN 76078-28-9 HCAPLUS
CN 3,5,9-Trioxa-4-phosphadotriaconta-19,21-diyn-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxo-10,12-tricosadiynyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:404815 HCAPLUS
DOCUMENT NUMBER: 131:56154
TITLE: Optoacoustic **contrast agents** and methods for their use in ultrasound and optical **imaging**

INVENTOR(S): Unger, Evan C.; Wu, Yunqiu
PATENT ASSIGNEE(S): Imarx Pharmaceutical Corp., USA
SOURCE: PCT Int. Appl., 166 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

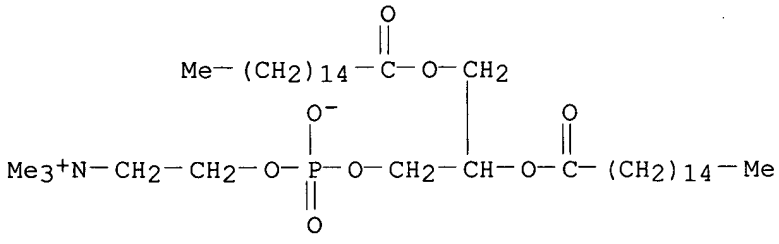
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9930620	A1	19990624	WO 1998-US27060	19981217
W: AU, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6123923	A	20000926	US 1997-993165	19971218
AU 9919318	A1	19990705	AU 1999-19318	19981217
EP 1039834	A1	20001004	EP 1998-964127	19981217
R: DE, FR, GB, IT				

PRIORITY APPLN. INFO.: US 1997-993165 A 19971218
WO 1998-US27060 W 19981217

AB The present invention generally relates to optoacoustic **contrast agents** and methods of diagnostic and therapeutic **imaging** using optoacoustic **contrast agents**. A compn. comprising a stabilizing material and a photoactive agent is administered and the patient is scanned using ultrasound **imaging** and optical **imaging** to obtain visible images of a region of the patient. The compns. may comprise a wide variety of addnl. components, including, for example, one or more of gases, gaseous precursors, liqs. oils, stabilizing materials, diagnostic agents, photoactive agents, bioactive agents, and/or targeting ligands. Perfluoropropane encapsulated optoacoustic **liposomes** were formed from dipalmitoylphosphatidylcholine, dipalmitoylphosphatidic acid, dipalmitoylphosphatidylethanolamine-PEG 5,000, and dipalmitoylphosphatidylethanolamine derivatized with lissamine rhodamine B. The sized photoactive lipid was optimally excited with 550 nm light and the fluorescence emission peak was 590 nm.

IT **2644-64-6**, Dipalmitoylphosphatidylcholine
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(perfluoropropane encapsulated in optoacoustic **liposomes** contg.; optoacoustic **contrast agents** and methods for their use in ultrasound and optical **imaging**)

RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:220014 HCAPLUS
DOCUMENT NUMBER: 130:249137
TITLE: Novel targeted ultrasound **imaging** **contrast agents** for diagnostic and therapeutic use
INVENTOR(S): Unger, Evan C.; Fritz, Thomas A.; Gertz, Edward W.
PATENT ASSIGNEE(S): ImarRx Pharmaceutical Corp., USA
SOURCE: PCT Int. Appl., 223 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9913919	A1	19990325	WO 1998-US18858	19980909
W: AU, CA				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6139819	A	20001031	US 1997-932273	19970917
AU 9893830	A1	19990405	AU 1998-93830	19980909
EP 959908	A1	19991201	EP 1998-946919	19980909
R: DE, FR, GB, IT				

PRIORITY APPLN. INFO.:

US 1997-932273	A	19970917
US 1995-497684	B2	19950607
US 1996-640464	B2	19960501
US 1996-660032	B2	19960606
US 1996-666129	A2	19960619
WO 1998-US18858	W	19980909

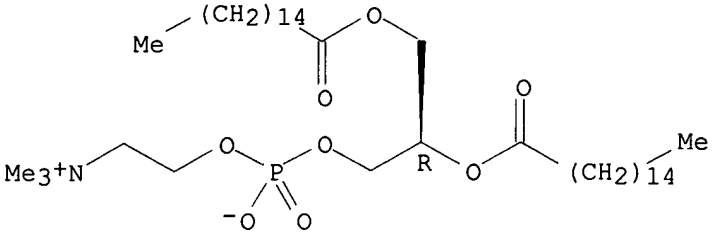
AB This invention describes novel **contrast agents** which may be used for diagnostic and therapeutic use. The compns. may comprise a lipid, a protein, polymer and/or surfactant, and a gas, in combination with a targeting ligand. In preferred embodiments, the targeting ligand targets coagula, including emboli and/or thrombi, particularly in patients suffering from an arrhythmic disorder. The contrast media can be used in conjunction with diagnostic **imaging**, such as ultrasound, as well as therapeutic applications, such as therapeutic ultrasound.

IT **63-89-8**, Dipalmitoylphosphatidylcholine **816-94-4**, Distearoylphosphatidylcholine **4235-95-4 18194-24-6**, Dimyristoylphosphatidylcholine
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**contrast agent**; novel targeted ultrasound **imaging contrast agents** for diagnostic and therapeutic use)

RN 63-89-8 HCAPLUS

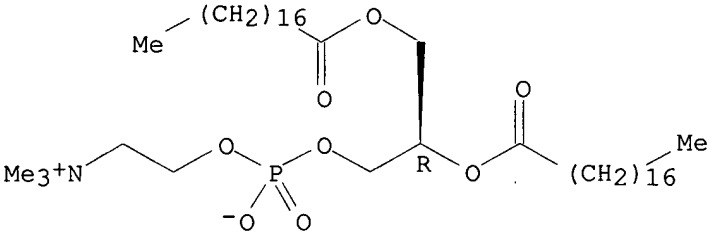
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 816-94-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

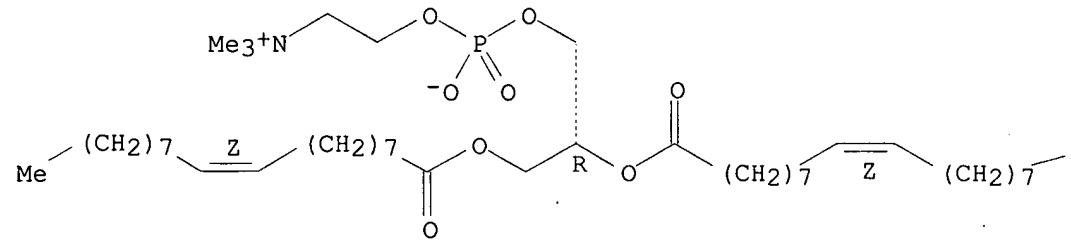
Absolute stereochemistry.



RN 4235-95-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (7R,18Z)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

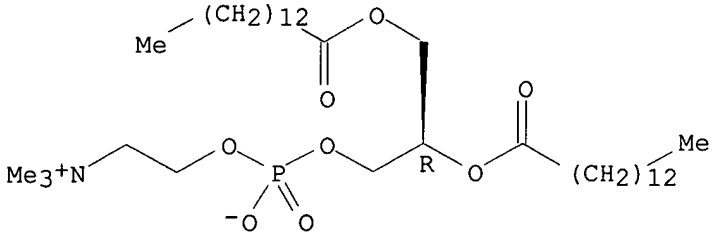
PAGE 1-A



PAGE 1-B

RN 18194-24-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:672498 HCAPLUS
DOCUMENT NUMBER: 129:293893
TITLE: Organic halide compositions for delivering bioactive agents
INVENTOR(S): Unger, Evan C.
PATENT ASSIGNEE(S): Imarx Pharmaceutical Corp., USA
SOURCE: PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9842384	A1	19981001	WO 1998-US4074	19980227
W: AU, CA, CN, JP, KR				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6143276	A	20001107	US 1997-823791	19970321
AU 9866791	A1	19981020	AU 1998-66791	19980227
EP 988061	A1	20000329	EP 1998-908866	19980227
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001514615	T2	20010911	JP 1998-533386	19980227

PRIORITY APPLN. INFO.: US 1997-823791 A 19970321
WO 1998-US4074 W 19980227

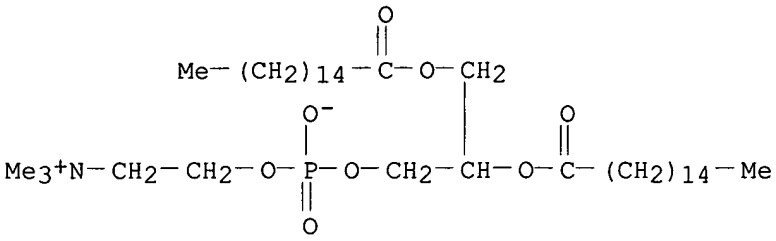
AB Novel methods for delivering bioactive agents to particular regions or tissues of the body of a patient are provided. Thus, a lipid blend was prepd. from a mixt. of dipalmitoylphosphatidylcholine, dipalmitoylphosphatidic acid, and DSPE-PEG combined with dexamethasone 21-acetate in MeOH. 1-Bromoperfluorobutane (50 .mu.L) was mixed with 5 mL the phospholipid prepd. and the mixt. was extruded. The ultrasound activity of the perfluoro compd. was shown.

IT **2644-64-6**, Dipalmitoylphosphatidylcholine **4539-70-2**, Distearoylphosphatidylcholine **18656-38-7**, Dimyristoylphosphatidylcholine **68737-67-7**, Dioleoylphosphatidylcholine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(org. halide compns. for delivering bioactive agents)

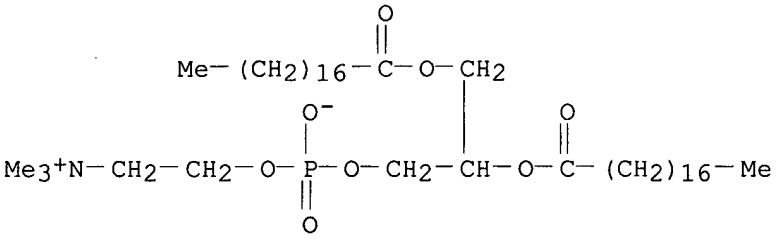
RN 2644-64-6 HCAPLUS

CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



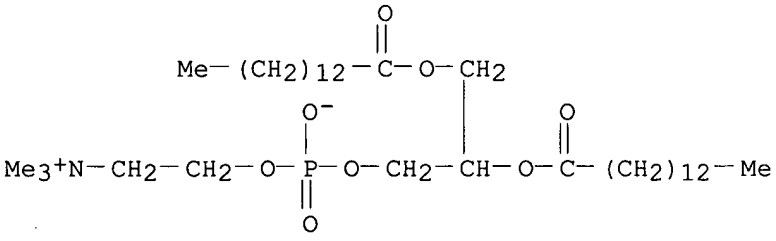
RN 4539-70-2 HCAPLUS

CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 18656-38-7 HCAPLUS

CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)

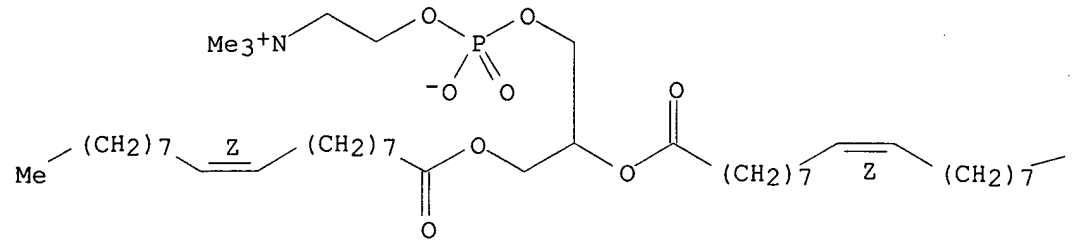


RN 68737-67-7 HCAPLUS

CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (18Z)-(9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

Me

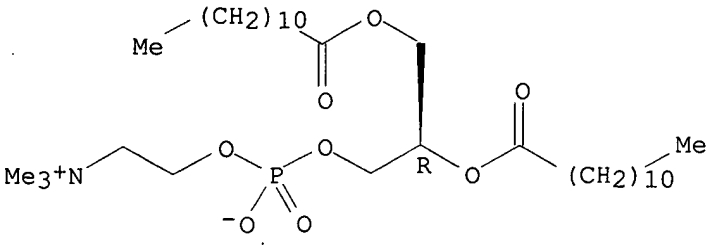
L25 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:539481 HCAPLUS
DOCUMENT NUMBER: 129:255704
TITLE: Development of a new transformation method using **magnetite** cationic **liposomes** and magnetic selection of transformed cells
AUTHOR(S): Nagatani, N.; Shinkai, M.; Honda, H.; Kobayashi, T.
CORPORATE SOURCE: Department of Biotechnology, Graduate School of Engineering, Nagoya University, Nagoya, 464-8603, Japan
SOURCE: Biotechnol. Tech. (1998), 12(7), 525-528
CODEN: BTECE6; ISSN: 0951-208X
PUBLISHER: Chapman & Hall
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A new method using **magnetite** cationic **liposomes** (MCLs)/**DNA** complex for transformation is proposed and efficient sepn. of transformed cells is reported. In our method, **gene** expression and antibodies as a marker are not required for sepn. The specific activity of sepd. cells was the highest when the complex consisting of 25 .mu.g MCLs and 2 .mu.g plasmid **DNA** was used for transformation. The specific activity was about 5 times higher than that of the cells before the sepn.

IT **18194-25-7**, Dilauroylphosphatidylcholine
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(transformation method using **magnetite** cationic **liposomes** and magnetic selection of transformed cells)

RN 18194-25-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheneicosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxododecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

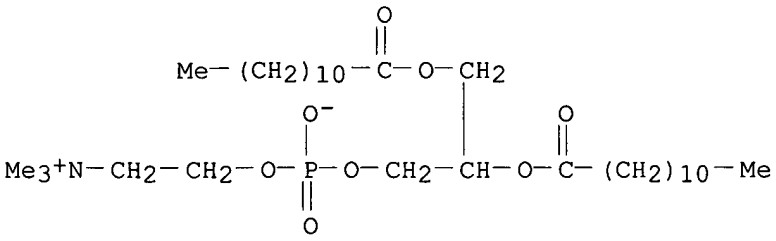


L25 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:114749 HCAPLUS
DOCUMENT NUMBER: 128:196615
TITLE: **Magnetoliposomes** as intracellular heat stress mediators for the temperature sensitive expression of cytokine
AUTHOR(S): Bouhon, Isabelle A.; Shinkai, Masashige; Honda, Hiroyuki; Kobayashi, Takeshi
CORPORATE SOURCE: Department of Biotechnology, Graduate School of Engineering, Nagoya University, Nagoya, 464-01, Japan
SOURCE: Anim. Cell Technol.: Basic Appl. Aspects, Proc. Annu. Meet. Jpn. Assoc. Anim. Cell Technol., 9th (1998), Meeting Date 1996, 355-359. Editor(s): Nagai, Kazuo; Wachi, Masaaki. Kluwer: Dordrecht, Neth.
CODEN: 65RGAA
DOCUMENT TYPE: Conference
LANGUAGE: English

AB A dual way to turn temp. increase into account to improve hyperthermia was investigated. Application of intracellular heating by **magnetoliposomes**, enabled us to enhance expression of interferon-.beta. **gene** regulated by the MMTV promoter. The expression obtained in an 39.degree.C environment was higher than that in extracellular heating at 43.degree.C. Cell killing effect was also raised by intracellular heating although this effect was not directly proportional to the cellular expression of IFN-.beta..

IT **18656-40-1**, Dilauroylphosphatidylcholine
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**magnetoliposomes** as intracellular heat stress mediators for the temp. sensitive expression of cytokine)

RN 18656-40-1 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheneicosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxododecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



L25 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:535052 HCAPLUS
DOCUMENT NUMBER: 125:230795
TITLE: Therapeutic delivery systems comprising gaseous precursor-filled **liposomes**
INVENTOR(S): Unger, Evan C.; Fritz, Thomas A.; Matsunaga, Terry; Ramaswami, Varadarajan; Yellowhair, David; Wu, Guanli
PATENT ASSIGNEE(S): ImaRx Pharmaceutical Corp., USA
SOURCE: U.S., 62 pp. Cont.-in-part of U.S. Ser. No. 159, 687.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 19
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5542935	A	19960806	US 1993-160232	19931130
US 5088499	A	19920218	US 1990-569828	19900820
WO 9109629	A1	19910711	WO 1990-US7500	19901219
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
JP 05502675	T2	19930513	JP 1991-503276	19901219
AT 180170	E	19990615	AT 1991-902857	19901219
ES 2131051	T3	19990716	ES 1991-902857	19901219
US 5228446	A	19930720	US 1991-717084	19910618
WO 9222247	A1	19921223	WO 1992-US2615	19920331
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
AU 9220020	A1	19930112	AU 1992-20020	19920331
AU 667471	B2	19960328		
JP 06508364	T2	19940922	JP 1992-500847	19920331
EP 616508	A1	19940928	EP 1992-912456	19920331
EP 616508	B1	20010718		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				
AT 203148	E	20010815	AT 1992-912456	19920331
ES 2159280	T3	20011001	ES 1992-912456	19920331
US 5580575	A	19961203	US 1993-76250	19930611
US 5348016	A	19940920	US 1993-88268	19930707
US 5585112	A	19961217	US 1993-159687	19931130
US 5769080	A	19980623	US 1994-199462	19940222
CA 2164846	AA	19941222	CA 1994-2164846	19940519
WO 9428874	A1	19941222	WO 1994-US5633	19940519
W: AU, CA, CN, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9469537	A1	19950103	AU 1994-69537	19940519
AU 696056	B2	19980827		
CN 1125393	A	19960626	CN 1994-192403	19940519
JP 08511523	T2	19961203	JP 1994-501811	19940519
EP 802788	A1	19971029	EP 1994-918051	19940519
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
AU 9470431	A1	19950103	AU 1994-70431	19940520
AU 683900	B2	19971127		
EP 712293	A1	19960522	EP 1994-919208	19940520
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN 1125389	A	19960626	CN 1994-192402	19940520
JP 08511526	T2	19961203	JP 1994-501839	19940520
US 5773024	A	19980630	US 1994-307305	19940916
US 5733572	A	19980331	US 1994-346426	19941129

CA 2177713	AA	19950608	CA 1994-2177713	19941130
JP 09506098	T2	19970617	JP 1994-515763	19941130
US 5922304	A	19990713	US 1995-401974	19950309
US 5705187	A	19980106	US 1995-417238	19950405
US 5571497	A	19961105	US 1995-468056	19950606
US 5853752	A	19981229	US 1995-487230	19950606
US 5656211	A	19970812	US 1995-482294	19950607
CN 1180310	A	19980429	CN 1996-193069	19960327
US 6001335	A	19991214	US 1996-665719	19960618
US 6146657	A	20001114	US 1996-741598	19961101
US 5935553	A	19990810	US 1996-758179	19961125
US 6039557	A	20000321	US 1997-833489	19970407
US 5985246	A	19991116	US 1997-888426	19970708
US 6071495	A	20000606	US 1997-942862	19971002
AU 713127	B2	19991125	AU 1998-56271	19980224
AU 9856271	A1	19980507		
AU 9888406	A1	19990204	AU 1998-88406	19981009
AU 732440	B2	20010426		
AU 9910043	A1	19990304	AU 1999-10043	19990104

PRIORITY APPLN. INFO.:

US 1989-455707	B2	19891222
US 1990-569828	A2	19900820
US 1991-716899	B2	19910618
US 1991-717084	A2	19910618
US 1993-76250	A2	19930611
US 1993-159674	B2	19931129
US 1993-159687	A2	19931130
WO 1990-US7500	W	19901219
US 1991-569828	A2	19910820
US 1991-750877	A3	19910826
US 1992-818069	A3	19920108
WO 1992-US2615	A	19920331
US 1992-967974	A3	19921027
US 1993-17683	A3	19930212
US 1993-18112	B3	19930217
US 1993-76239	A2	19930611
US 1993-85608	A3	19930630
US 1993-88268	A3	19930707
US 1993-160232	B2	19931130
US 1993-163039	A3	19931206
US 1994-212553	B2	19940311
AU 1994-69537	A3	19940519
WO 1994-US5633	W	19940519
WO 1994-US5792	W	19940520
US 1994-307305	A2	19940916
US 1994-346426		19941129
AU 1995-21850	A3	19941130
WO 1994-US13817	W	19941130
US 1995-395683	A3	19950228
US 1995-468056	A3	19950606
US 1995-471250	A3	19950606
US 1995-487230	A3	19950606
US 1995-482294	A3	19950607
US 1996-665719	A3	19960618

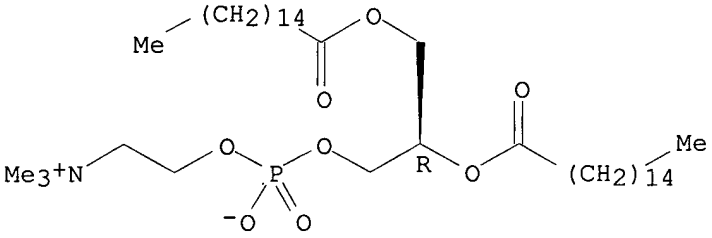
AB Therapeutic delivery systems comprising gaseous precursor-filled **liposomes** having encapsulated therein a **contrast agent** or drug are described. Methods of and app. for prepg. such **liposomes** and methods for employing such **liposomes** in therapeutic delivery applications are also disclosed. Dimpalmitoylpyospyhatidylcholine was suspended in normal saline and then extruded five times through 2 .mu. polycarbonate filters at 800 psi. The

resulting **liposomes** were then dried and added to 1 mL normal saline soln. contg. 2 .mu.g of **DNA** on 7000 bp plasmid and filled with N gas. The presence of the gas within the microspheres resulted in much more efficient capture of the ultrasonic energy and release of **DNA**.

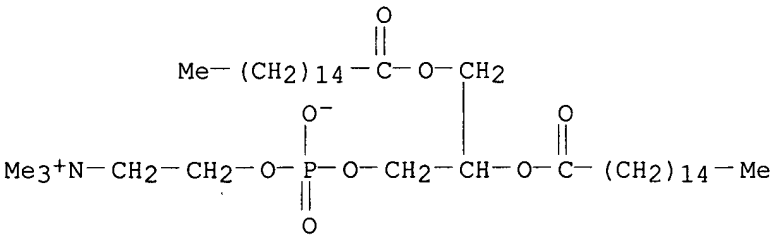
IT **63-89-8**, Dipalmitoylphosphatidylcholine **2644-64-6**, 1,2-Dipalmitoylphosphatidylcholine **4539-70-2**, Distearoylphosphatidylcholine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(therapeutic delivery systems comprising gaseous precursor-filled **liposomes**)

RN 63-89-8 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

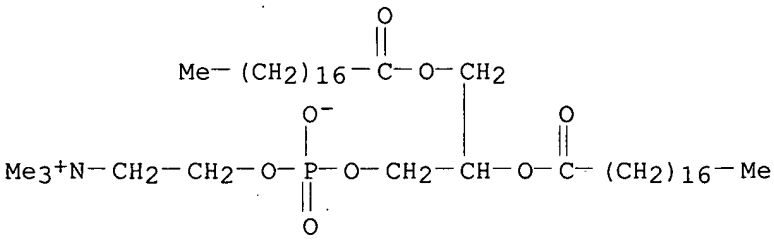
Absolute stereochemistry. Rotation (+).



RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)

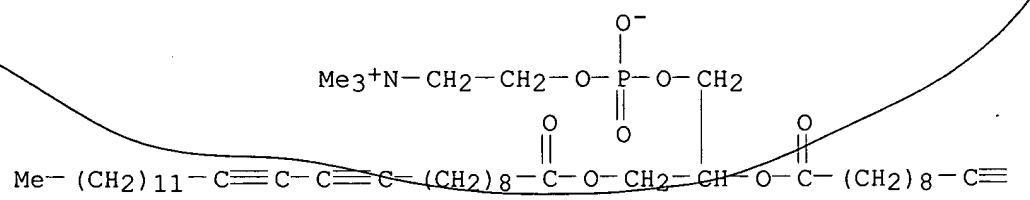


L25 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:683062 HCAPLUS
DOCUMENT NUMBER: 123:65794
TITLE: Paramagnetic Polymerized **Liposomes**: Synthesis, Characterization, and Applications for Magnetic Resonance **Imaging**
AUTHOR(S): Storrs, Richard W.; Tropper, Francois D.; Li, Henry Y.; Song, Curtis K.; Kuniyoshi, Jeremy K.; Sipkins, Dorothy A.; Li, King C. P.; Bednarski, Mark D.
CORPORATE SOURCE: School of Medicine, Stanford University, Stanford, CA, 94305, USA
SOURCE: J. Am. Chem. Soc. (1995), 117(28), 7301-6
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Liposomes** are biocompatible materials that show promise as vehicles for drug delivery, inhibitors of cell adhesion, and carriers for the introduction of **genetic** material into cells. In this paper, the authors describe the synthesis and characterization of a new class of polymd. **liposome** particles, paramagnetic polymd. **liposome** (PPL), that have lanthanide ion chelates as head groups and that can be easily visualized using magnetic resonance **imaging** (MRI). The R1 molar relaxivity was found to depend primarily on the linker length (m) and on the surface metal d. and only weakly on particle size. A biotinylated lipid was also incorporated into the particle without affecting R1 relaxivities for use as a marker for histochem. studies. At. force microscopy was used, for the first time, to investigate the size and nature of these particles in an aq. environment. These new materials may prove useful for the in vivo investigation of **liposome** formulations as vehicles for therapeutic applications and for evaluating tissue pathol. with MRI.

IT **75898-25-8**
RL: RCT (Reactant)
(prepn. and characterization of paramagnetic polymd. **liposomes** for MRI)
RN 75898-25-8 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatetratriaconta-19,21-diyn-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxo-10,12-pentacosadiynyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)

PAGE 1-A



L25 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:438211 HCAPLUS
DOCUMENT NUMBER: 122:197022
TITLE: Polymerized **liposomes** with enhanced stability for oral delivery
INVENTOR(S): Okada, Junichi; Cohen, Smadar; Langer, Robert S.
PATENT ASSIGNEE(S): Massachusetts Institute of Technology, USA
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9503035	A1	19950202	WO 1994-US8286	19940722
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5762904	A	19980609	US 1997-786617	19970117
US 6004534	A	19991221	US 1997-844137	19970418
PRIORITY APPLN. INFO.:			US 1993-96689	19930723
			US 1997-786617	19970717

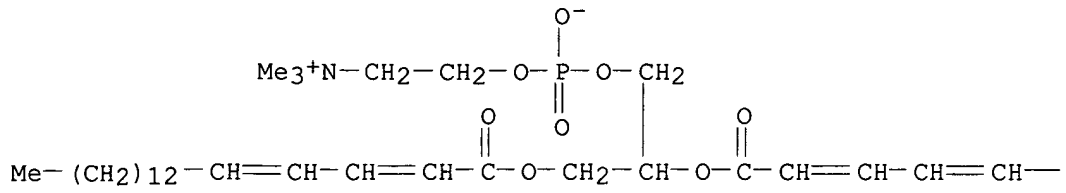
AB Pharmaceutical compns. for oral delivery are prepd. by encapsulation of compds. to be delivered to the small intestine within polymd. **liposomes**. The constituent phospholipids are polymd. through double bond-contg. olefinic and acetylenic phospholipids. Covalently binding the layers through polymn. adds strength, resulting in a less fluid unpolymd. **liposome**. Polymd. **liposomes** can also be prepd. by chem. oxidn. of thiol groups in the phospholipids to disulfide linkages. Biol. active substances, such as a drug or antigen, can be encapsulated during the polymn. by mixing the substances into the **liposome** components at the time the **liposomes** are formed. Alternatively, the **liposomes** can be polymd. first, and the biol. active substance can be added later by resuspending the polymd. **liposomes** in a soln. of a biol. active substance, and sonicating the suspension or by drying the polymd. **liposomes** to form a film, and hydrating the film in a soln. of the biol. active substance.

IT **76282-07-0**, Di(2,4-octadecadienoyl)phosphatidylcholine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymd. **liposomes** with enhanced stability for oral delivery)

RN 76282-07-0 HCAPLUS

CN 3,5,9-Trioxa-4-phosphaheptacosa-11,13-dien-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxo-2,4-octadecadienyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— $(CH_2)_{12}$ — Me

L25 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1984:63748 HCAPLUS
DOCUMENT NUMBER: 100:63748
TITLE: Phenylalanyl and tyrosyl side chain mobility in the M13 coat protein reconstituted in phospholipid vesicles
AUTHOR(S): Dettman, Heather D.; Weiner, Joel H.; Sykes, Brian D.
CORPORATE SOURCE: Dep. Biochem., Univ. Alberta, Edmonton, AB, T6G 2H7, Can.
SOURCE: Biochemistry (1984), 23(4), 705-12
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English

AB 19F NMR was used to study the side-chain motions of [19F]phenylalanine (I) and [19F]tyrosine (II) in the phage M13 major coat (**gene** 8) protein when reconstituted in **liposomes** contg. 80% dimyristoylphosphatidylcholine, 10% cardiolipin, and 10% dipalmitoylphosphatidic acid. Both the N- and C-terminal I residues were susceptible to chymotryptic digestion; thus, the protein was sym. incorporated. On the other hand, II residues were protected by the lipid bilayer. Temp. studies with an 8-fluoro analog of dipalmitoylphosphatidylcholine confirmed that I and II labels were localized in the aq. and bilayer environments, resp. Quantitation of the ring motions of I and II residues was done by computer modeling of the 19F NMR linewidth, nuclear Overhauser effect, and spin-lattice relaxation (T1) data, detd. at 303 K. A wobble frequency about the 2.beta.-bond of 2 .times. 108 and a rotation frequency about the .beta..gamma.-bond of 4 .times. 108 s-1 most closely fit the data. In addn., II residues interacted with passing lipids, whereas I interacted with phospholipid head-groups or other amino acids. II had a ring wobble angle of .+-.75.degree.; that of I was 90.degree.. Backbone motions in the I-contg. hydrophilic regions were greater than those in the lipid-surrounded II regions.

IT **13699-48-4**
RL: BIOL (Biological study)
(**liposomes** contg. phosphatidate and cardiolipins and, phage M13 coat protein reconstituted in, phenylalanine and tyrosine

side-chain mobility in)
RN 13699-48-4 HCAPLUS

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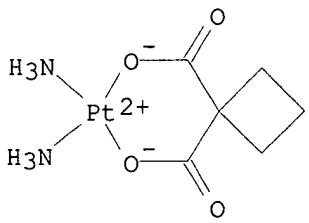
L30 ANSWER 1 OF 2 HCAPLUS ©COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:722181 HCAPLUS
DOCUMENT NUMBER: 132:284004
TITLE: A novel drug carrier application system for an efficient therapy of liver metastases
AUTHOR(S): Reszka, Regina C.; Pohlen, Uwe; Schluter, Roland; Berndt, Antje; Berger, Ingrid; Lehmann, Cathleen; Diederichs, Julia E.; Binnenhei, Marion; Berger, Gerd
CORPORATE SOURCE: Max-Delbruck-Center for Molecular Medicine, Group Drug Targeting, Berlin, 13122, Germany
SOURCE: Proc. Int. Symp. Controlled Release Bioact. Mater. (1999), 26th, 140-141
CODEN: PCRMEY; ISSN: 1022-0178
PUBLISHER: Controlled Release Society, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A combined strategy consisting of three parts was developed: 1st PEG liposome with encapsulated and assocd. therapeutic agent (carboplatin), 2nd, an embolization agent, and 3rd, the loco-regional application for the treatment of exptl. liver metastases, the Drug Carrier **Embolization System.**

IT **41575-94-4**, Carboplatin
RL: BPR (Biological process); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(a drug carrier application system for an efficient therapy of liver metastases)
RN 41575-94-4 HCAPLUS
CN Platinum, diammine[1,1-cyclobutanedi(carboxylato-.kappa.O)(2-)]-, (SP-4-2)- (9CI) (CA INDEX NAME)



IT **9005-25-8**, Starch, biological studies
RL: BPR (Biological process); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(microspheres; a drug carrier application system for an efficient therapy of liver metastases)
RN 9005-25-8 HCAPLUS
CN Starch (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr 2

L30 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:404862 HCAPLUS
DOCUMENT NUMBER: 131:39728
TITLE: Agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases
INVENTOR(S): Reszka, Regina; Berndt, Antje
PATENT ASSIGNEE(S): Max-Delbrueck-Centrum fuer Molekulare Medizin, Germany
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

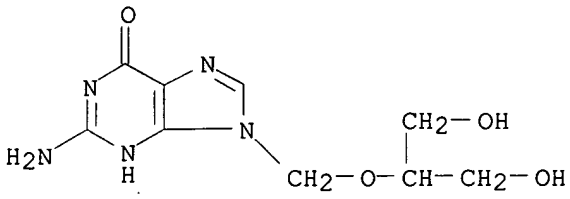
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9930741	A2	19990624	WO 1998-DE3763	19981214
WO 9930741	A3	19990819		
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19859526	A1	19990819	DE 1998-19859526	19981214
EP 1037670	A2	20000927	EP 1998-966568	19981214
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, NL, SE, FI				

PRIORITY APPLN. INFO.: DE 1997-19756309 A 19971212
WO 1998-DE3763 W 19981214

AB A method for local/regional gene therapy of tumors (esp. liver metastases) and of neurodegenerative, cardiovascular, and autoimmune diseases comprises combined application of liposomes/plasmid DNA complexes having different compns., quantities, and concns. The pharmaceutical agent employed comprises .gtoreq.1 genetic material which are nonencapsulated or encapsulated in PEG, immuno-, immuno/PEG, or cationic, optionally polymer-modified liposomes; lyophilized or degradable starch particles and/or gelatin and/or polymer nanoparticles; and a contrast agent contg. I, Gd, magnetite, or F. The genetic material preferably constitutes a suicide gene such as herpes simplex virus thymidine kinase (HSV-tk) gene, deaminase gene, or a cytokine gene coding for IL-2, IL-4, IL-6, IL-10, IL-12, or IL-15, and is enclosed in multilamellar liposomes comprising an amphiphile, a steroid, and an anionic lipid. Thus, phosphatidylcholine-cholesterol-PEG liposomes contg. suicide gene pUT 649, which encodes HSV-tk, were injected together with a drug carrier **embolization system** into the common hepatic artery of rats which had been inoculated with CC531 carcinoma cells 10 days previously. Beginning 5 days later, the rats were treated with ganciclovir (100 mg/kg/day i.p.) for 14 days. The rats showed a decrease in liver metastases after 30 days owing to conversion of ganciclovir by HSV-tk to a nucleotide-like compd. which was incorporated into the DNA of dividing liver cells, causing cessation of DNA synthesis.

IT **82410-32-0**, Ganciclovir
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

RN 82410-32-0 HCAPLUS
CN 6H-Purin-6-one, 2-amino-1,9-dihydro-9-[[2-hydroxy-1-(hydroxymethyl)ethoxy]methyl]- (9CI) (CA INDEX NAME)



IT **9002-98-6 25104-18-1**, Poly-L-lysine **28179-44-4**
, Ioxitalamic acid **31112-62-6**, Metrizamide **38000-06-5**,
Poly-L-lysine **59017-64-0**, Ioxaglic acid **60166-93-0**,
Iopamidol **66108-95-0**, Iohexol **73334-07-3**, Iopromide
79770-24-4, Iotrolan
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(agent for gene therapy of tumors and neurodegenerative,
cardiovascular, and autoimmune diseases)
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

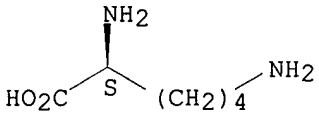
CRN 151-56-4
CMF C2 H5 N

RN 25104-18-1 HCAPLUS
CN L-Lysine, homopolymer (9CI) (CA INDEX NAME)

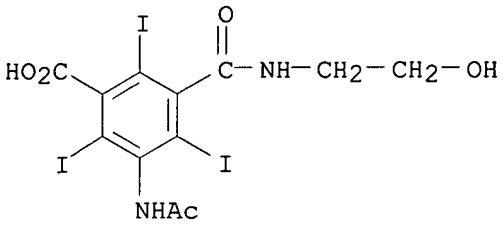
CM 1

CRN 56-87-1
CMF C6 H14 N2 O2
CDES 5:L

Absolute stereochemistry.

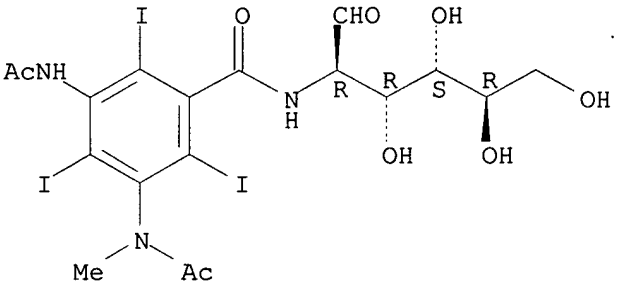


RN 28179-44-4 HCAPLUS
CN Benzoic acid, 3-(acetylamino)-5-[[(2-hydroxyethyl)amino]carbonyl]-2,4,6-
triiodo- (9CI) (CA INDEX NAME)

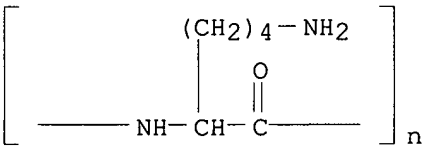


RN 31112-62-6 HCAPLUS
CN D-Glucose, 2-[[3-(acetylamino)-5-(acetylmethylamino)-2,4,6-triiodobenzoyl]amino]-2-deoxy- (9CI) (CA INDEX NAME)

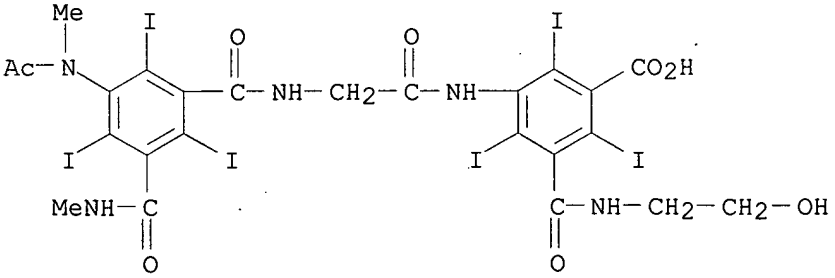
Absolute stereochemistry.



RN 38000-06-5 HCAPLUS
CN Poly[imino[(1S)-1-(4-aminobutyl)-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



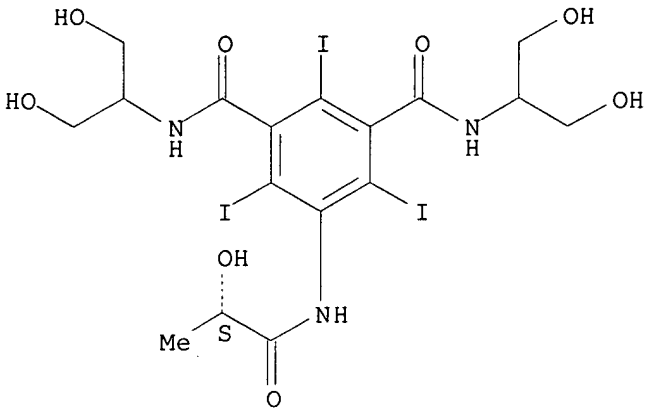
RN 59017-64-0 HCAPLUS
CN Benzoic acid, 3-[[[[3-(acetylmethylamino)-2,4,6-triiodo-5-[(methylamino)carbonyl]benzoyl]amino]acetyl]amino]-5-[[(2-hydroxyethyl)amino]carbonyl]-2,4,6-triiodo- (9CI) (CA INDEX NAME)



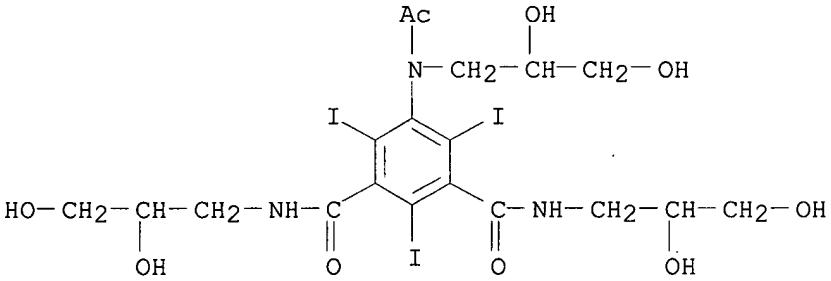
RN 60166-93-0 HCAPLUS

CN 1,3-Benzenedicarboxamide, N,N'-bis[2-hydroxy-1-(hydroxymethyl)ethyl]-5-[[(2S)-2-hydroxy-1-oxopropyl]amino]-2,4,6-triiodo- (9CI) (CA INDEX NAME)

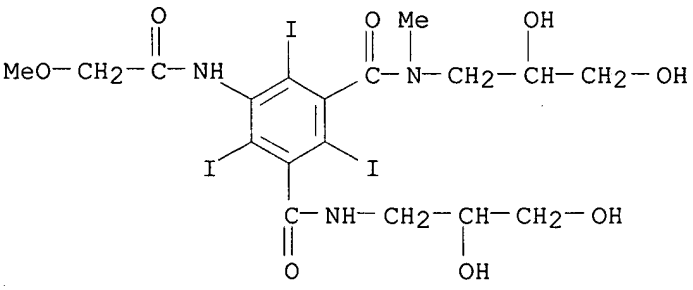
Absolute stereochemistry. Rotation (-).



RN 66108-95-0 HCAPLUS
CN 1,3-Benzenedicarboxamide, 5-[acetyl(2,3-dihydroxypropyl)amino]-N,N'-bis(2,3-dihydroxypropyl)-2,4,6-triiodo- (9CI) (CA INDEX NAME)

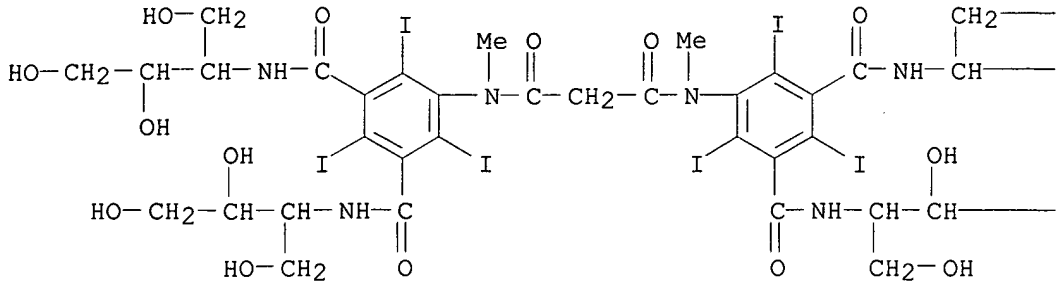


RN 73334-07-3 HCAPLUS
CN 1,3-Benzenedicarboxamide, N,N'-bis(2,3-dihydroxypropyl)-2,4,6-triiodo-5-[(methoxyacetyl)amino]-N-methyl- (9CI) (CA INDEX NAME)

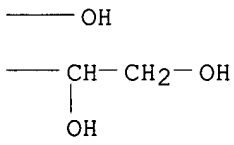


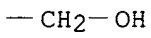
RN 79770-24-4 HCAPLUS
CN 1,3-Benzenedicarboxamide, 5,5'-[(1,3-dioxo-1,3-propanediyl)bis(methylimino)]bis[N,N'-bis[2,3-dihydroxy-1-(hydroxymethyl)propyl]-2,4,6-triiodo- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B





IT **1317-61-9**, Iron oxide (Fe3O4), biological studies
7440-54-2, Gadolinium, biological studies **7553-56-2**, Iodine, biological studies **7782-41-4**, Fluorine, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(contrast agents contg.; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

RN 1317-61-9 HCAPLUS
CN Iron oxide (Fe3O4) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7440-54-2 HCAPLUS
CN Gadolinium (8CI, 9CI) (CA INDEX NAME)

Gd

RN 7553-56-2 HCAPLUS
CN Iodine (8CI, 9CI) (CA INDEX NAME)

I—I

RN 7782-41-4 HCAPLUS
CN Fluorine (8CI, 9CI) (CA INDEX NAME)

F—F

IT **9002-06-6**, Thymidine kinase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene for, of herpes simplex virus; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
RN 9002-06-6 HCAPLUS
CN Kinase (phosphorylating), thymidine (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9037-41-6**, Nitroreductase **9059-37-4**, Nucleoside phosphorylase **9067-84-9**, Deaminase **127464-60-2**, Vascular endothelial growth factor
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene for; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
RN 9037-41-6 HCAPLUS
CN Reductase, nitro- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9059-37-4 HCAPLUS
CN Phosphorylase, nucleoside (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9067-84-9 HCAPLUS
CN Deaminase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 127464-60-2 HCAPLUS
CN Vascular endothelial growth factor (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **57-10-3**, Palmitic acid, biological studies **57-11-4**, Octadecanoic acid, biological studies **57-88-5**, Cholesterol, biological studies **57-88-5D**, Cholesterol, diethoxy derivs. **83-46-5 2197-63-9**, Dicetyl phosphate **4537-76-2**, Distearoylphosphatidylethanolamine **9004-74-4** **25322-68-3D**, PEG, conjugates with lipids **137056-72-5**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes contg.; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
RN 57-10-3 HCAPLUS
CN Hexadecanoic acid (9CI) (CA INDEX NAME)

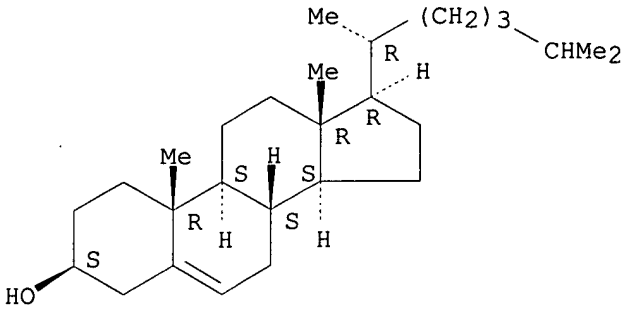
$HO_2C-(CH_2)_{14}-Me$

RN 57-11-4 HCAPLUS
CN Octadecanoic acid (9CI) (CA INDEX NAME)

$HO_2C-(CH_2)_{16}-Me$

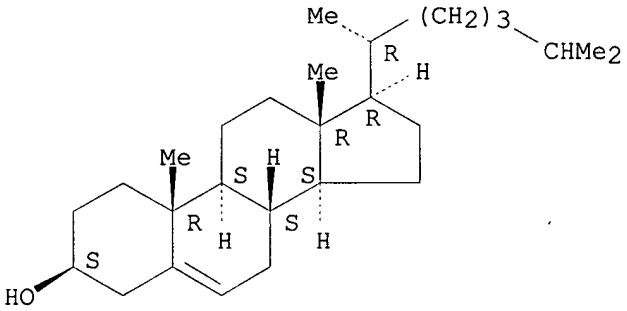
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



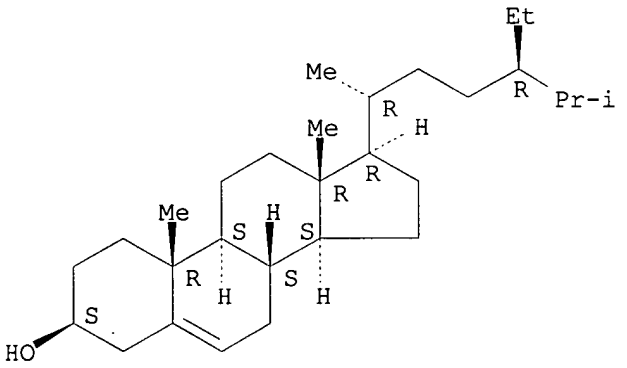
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

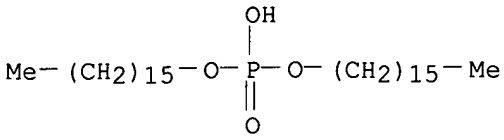


RN 83-46-5 HCAPLUS
CN Stigmast-5-en-3-ol, (3.beta.)- (9CI) (CA INDEX NAME)

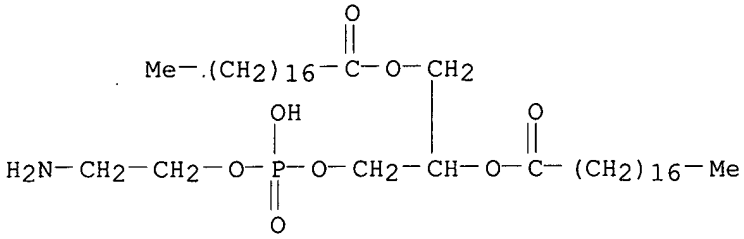
Absolute stereochemistry.



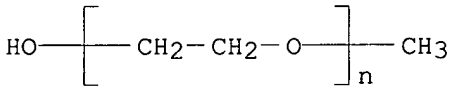
RN 2197-63-9 HCAPLUS
CN 1-Hexadecanol, hydrogen phosphate (8CI, 9CI) (CA INDEX NAME)



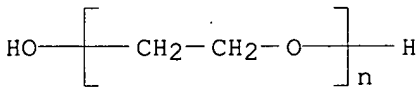
RN 4537-76-2 HCAPLUS
CN Octadecanoic acid, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



RN 9004-74-4 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-methyl-.omega.-hydroxy- (9CI) (CA INDEX NAME)

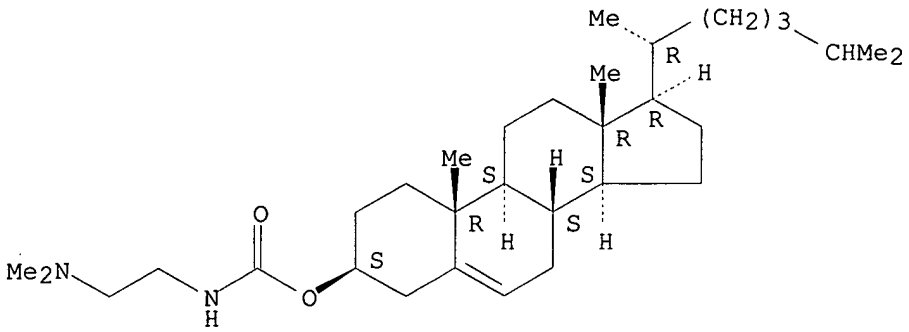


RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)

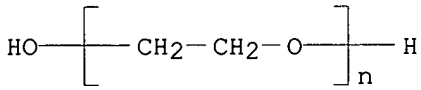


RN 137056-72-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, [2-(dimethylamino)ethyl]carbamate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **25322-68-3**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **9005-25-8**, Starch, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(particles; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
RN 9005-25-8 HCAPLUS
CN Starch (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

=> d ind 2

L30 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2002 ACS
IC ICM A61K048-00
CC 1-6 (Pharmacology)
ST gene therapy liver metastasis liposome; suicide gene tumor therapy liposome
IT Proteins, specific or class
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(NC(p7) (nucleocapsid, p7); agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Proteins, specific or class
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Nbk, gene for; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Anti-Alzheimer's agents
Antiarthritics
Antiasthmatics
Antidiabetic agents
Antihypertensives
Antiparkinsonian agents
Autoimmune disease
Gene therapy
Transformation, genetic
(agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Antisense oligonucleotides
DNA
RNA
Ribozymes
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Gelatins, biological studies
High-mobility group proteins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Angiogenic factors
Growth inhibitors, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(angiogenic growth-inhibiting factors, genes for; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Carcinoembryonic antigen
Ki-67 antigen
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(antibody to, PEG liposomes contg.; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Proteins, specific or class
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(apoptosis-regulating, apoptin, gene for; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Antitumor agents
(bladder carcinoma; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Bladder
(carcinoma, inhibitors; agent for gene therapy of tumors and

neurodegenerative, cardiovascular, and autoimmune diseases)
IT Antitumor agents
(carcinoma; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Polyoxyalkylenes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugates with lipids, liposomes contg.; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Lipids, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugates, with PEG, liposomes contg.; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Imaging agents
(contrast; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Nervous system
(degeneration; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Interleukin 10
Interleukin 12
Interleukin 15
Interleukin 2
Interleukin 4
Interleukin 6
Macrophage inflammatory protein 1.alpha.
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene for; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Chemokines
Cytokines
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(genes for; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Apoptosis
(genes regulating; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Antitumor agents
(genitourinary tract tumor inhibitors; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Neuroglia
(glioblastoma, inhibitors; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Antitumor agents
(glioblastoma; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Antitumor agents
(head; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Drug delivery systems
(immunoliposomes; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Lung, neoplasm
Transplant rejection
(inhibitors; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Lipids, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ionic, liposomes contg.; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)
IT Amphiphiles

Emulsifying agents
Surfactants
(liposomes contg.; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Phosphatidic acids
Phosphatidylserines
Phospholipids, biological studies
Sphingolipids
Steroids, biological studies
Sulfatides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes contg.; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Polymers, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes modified with; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Drug delivery systems
(liposomes, large unilamellar; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Drug delivery systems
(liposomes, multilamellar; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Drug delivery systems
(liposomes, small unilamellar; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Drug delivery systems
(liposomes; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Polyoxyalkylenes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Antitumor agents
(liver, metastasis; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Antitumor agents
(lung; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Antitumor agents
(lymphoma; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Antitumor agents
(mammary gland; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Liver, neoplasm
(metastasis, inhibitors; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Cytokines
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(monocyte chemotactic factor, gene for; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Cytokines
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(natural killer cytotoxic factor, gene for; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Antitumor agents
(neck; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Head

Mammary gland
Neck, anatomical
(neoplasm, inhibitors; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Plasmids
(pUT649; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Phosphatidylcholines, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(phosphinico analogs, liposomes contg.; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Nanoparticles
(polymeric; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Artery, disease
(restenosis, inhibitors; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Lecithins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(soya; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Protamines
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sulfates; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Multiple sclerosis
(therapeutic agents; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Human herpesvirus
(thymidine kinase gene of; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Antibodies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(to Ki-67 antigen, liposomes contg.; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT Urogenital tract
(tumor inhibitors; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT **82410-32-0**, Ganciclovir
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT **9002-98-6** **25104-18-1**, Poly-L-lysine **28179-44-4**, Ioxitalamic acid **31112-62-6**, Metrizamide **38000-06-5**, Poly-L-lysine **59017-64-0**, Ioxaglic acid **60166-93-0**, Iopamidol **66108-95-0**, Iohexol **73334-07-3**, Iopromide **79770-24-4**, Iotrolan
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT **1317-61-9**, Iron oxide (Fe3O4), biological studies **7440-54-2**, Gadolinium, biological studies **7553-56-2**, Iodine, biological studies **7782-41-4**, Fluorine, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(contrast agents contg.; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT **9002-06-6**, Thymidine kinase
RL: BSU (Biological study, unclassified); BIOL (Biological study)

(gene for, of herpes simplex virus; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT **9037-41-6**, Nitroreductase **9059-37-4**, Nucleoside phosphorylase **9067-84-9**, Deaminase **127464-60-2**, Vascular endothelial growth factor
RL: BSU (Biological study, unclassified); BIOL (Biological study) (gene for; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT **57-10-3**, Palmitic acid, biological studies **57-11-4**, Octadecanoic acid, biological studies **57-88-5**, Cholesterol, biological studies **57-88-5D**, Cholesterol, diethoxy derivs. **83-46-5 2197-63-9**, Dicetyl phosphate **4537-76-2**, Distearoylphosphatidylethanolamine **9004-74-4** **25322-68-3D**, PEG, conjugates with lipids **137056-72-5**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (liposomes contg.; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT **25322-68-3**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (liposomes; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

IT **9005-25-8**, Starch, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (particles; agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases)

=> d ibib abs hitstr 1

L38 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:816421 HCAPLUS
DOCUMENT NUMBER: 135:348931
TITLE: Liposomes for the encapsulation of drugs, **contrast agents** and other substances
INVENTOR(S): Ebert, Juergen; Berger, Gerd
PATENT ASSIGNEE(S): Pharmacept G.m.b.H., Germany
SOURCE: PCT Int. Appl., 12 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001082892	A2	20011108	WO 2001-EP4900	20010502

W: AU, CA, CN, CZ, HU, JP, PL, RU, UA, US, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR

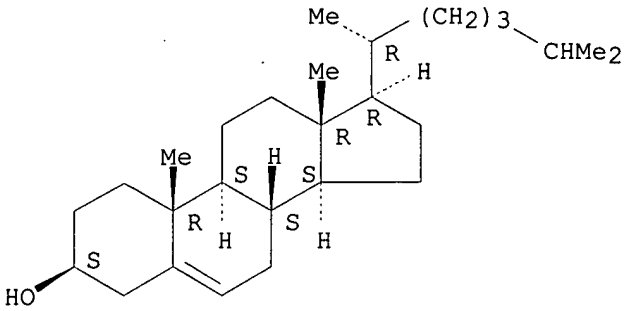
PRIORITY APPLN. INFO.: DE 2000-10021030 A 20000502

AB The invention relates to liposomally encapsulated active substances, which are characterized in that the active substance(s) is/are encapsulated in a proportion of 1 wt. to 90 wt. with regard to the amt. of active substances used. These active substances are particularly well-suited for treating tumors, as food supplements, for producing contrast media for imaging methods and for producing diagnostic agents for diseases. Thus hydrated egg phosphatidylcholine (50 mg/mL), cholesterol (24.8 g/mL) and polyethylene glycol (5.4 mg/mL) were dissolved in chloroform and the solvent was evapd. The dryed lipid film was resuspended in a soln. of 5-fluorouracil and shaken for 24 h; the formed multilayer vesicles (MLV) were treated with ultrasound and centrifuged. The encapsulated drug was used with or without **starch** microspheres as injection for the treatment of tumors.

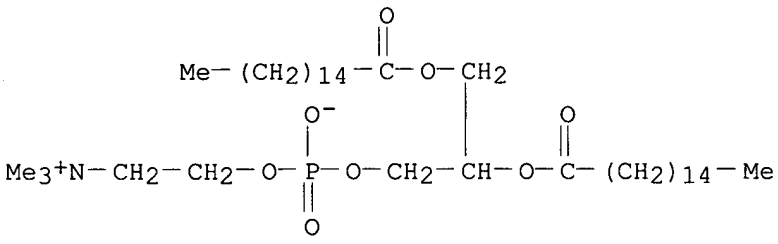
IT **57-88-5**, Cholesterol, biological studies **2644-64-6**, Dipalmitoylphosphatidylcholine **18656-38-7**, Dimyristoylphosphatidylcholine
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**liposomes** for encapsulation of drugs, **contrast agents** and other substances)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

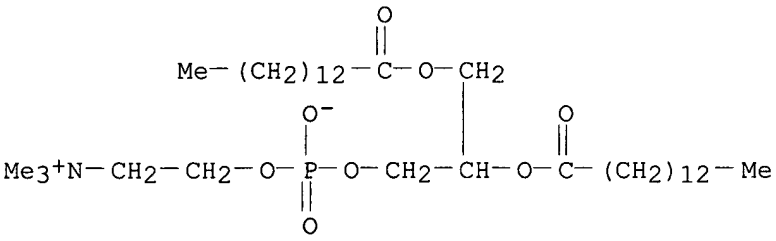
Absolute stereochemistry.



RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 18656-38-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



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L38 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2002 ACS
IC ICM A61K009-00
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 17
ST liposome drug **contrast agent** antitumor agent
IT Diagnosis
(agents; liposomes for encapsulation of drugs, **contrast agents** and other substances)
IT Imaging agents
(contrast; liposomes for encapsulation of drugs, **contrast agents** and other substances)
IT Lecithins
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(egg yolk; liposomes for encapsulation of drugs, **contrast agents** and other substances)
IT Drug delivery systems
(injections, i.v.; liposomes for encapsulation of drugs, **contrast agents** and other substances)
IT Antitumor agents
Encapsulation
(liposomes for encapsulation of drugs, **contrast agents** and other substances)
IT Phosphatidylcholines, biological studies
Phospholipids, biological studies
Polyoxyalkylenes, biological studies
Polysaccharides, biological studies
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(liposomes for encapsulation of drugs, **contrast agents** and other substances)
IT Drug delivery systems
(liposomes; liposomes for encapsulation of drugs, **contrast agents** and other substances)
IT Drug delivery systems
(microspheres; liposomes for encapsulation of drugs, **contrast agents** and other substances)
IT Lecithins
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(soya; liposomes for encapsulation of drugs, **contrast agents** and other substances)
IT Diet
(supplements; liposomes for encapsulation of drugs, **contrast agents** and other substances)
IT 51-21-8, 5-Fluorouracil **57-88-5**, Cholesterol, biological studies **2644-64-6**, Dipalmitoylphosphatidylcholine 9005-25-8, **Starch**, biological studies **18656-38-7**, Dimyristoylphosphatidylcholine 25322-68-3, Polyethyleneglycol 41575-94-4, Carboplatin
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**liposomes** for encapsulation of drugs, **contrast agents** and other substances)

=> d ibib abs hitstr 2

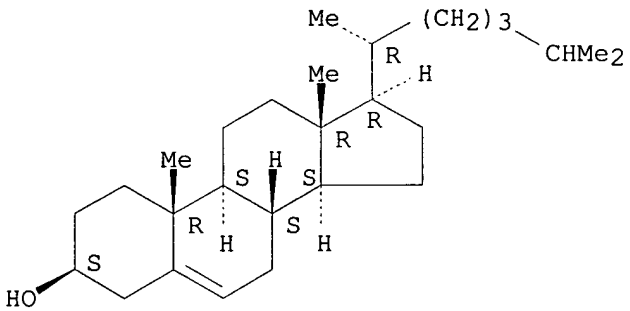
L38 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:194715 HCAPLUS
DOCUMENT NUMBER: 112:194715
TITLE: NMR and ESR study of liposome delivery of manganese to murine liver
AUTHOR(S): Bacic, G.; Niesman, M. R.; Magin, R. L.; Swartz, H. M.
CORPORATE SOURCE: Coll. Med., Univ. Illinois, Urbana, IL, 61801, USA
SOURCE: Magn. Reson. Med. (1990), 13(1), 44-61
CODEN: MRMEEN; ISSN: 0740-3194
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The mechanism of tissue relaxation of liposome-delivered Mn2+ as a **contrast agent** for magnetic imaging (MRI) was examd. using magnetic resonance and ESR techniques. It is known that liposomes of the size and compn. used in this study are taken up by fixed liver macrophages (Kupffer cells). Mn2+ must be released from the liposomes in order to affect the water proton relaxation rate in the liver. As long as the Mn2+ was confined to the Kupffer cells, no substantial changes in the relaxation of the majority of the liver water were obsd. Unlike other **contrast agents** delivered to the Kupffer cells (for example, Gd-**starch** microspheres or magnetite), once the Mn2+ is delivered and released into the Kupffer cells, it can diffuse from the Kupffer cells and be rapidly taken up by the hepatocytes. This seems to be the mechanism for selective relaxation enhancement in the liver. A consequence of this behavior is that the time at which max. contrast enhancement occurs for MRI can be varied by the choice of liposome phospholipid compn. ESR techniques were used to directly det. the state of Mn2+ and the integrity of liposomes in various stages of processing.

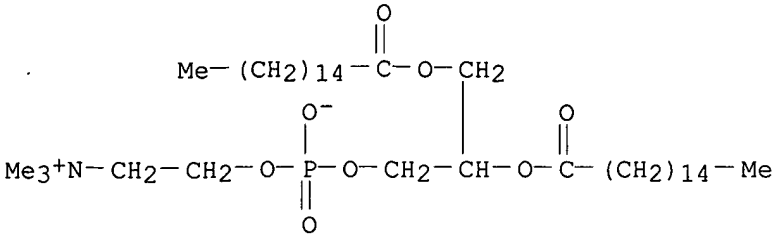
IT **13699-48-4 57-88-5**, Cholesterol, biological studies
2644-64-6
RL: ANST (Analytical study)
(**liposomes** contg., manganese encapsulated in, for liver proton relaxation studies, **liposome** compn. in relation to)

RN 13699-48-4 HCAPLUS
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



=> d ind 2

L38 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2002 ACS
CC 9-5 (Biochemical Methods)
Section cross-reference(s): 8
ST manganese liposome delivery liver proton relaxation; spectrometry NMR ESR magnetic imaging contrast
IT Phospholipids, uses and miscellaneous
RL: USES (Uses)
(liposomes, manganese encapsulated in, for liver proton relaxation studies)
IT Shift and relaxation reagents
(manganese as, in liver, liposome delivery system for)
IT Magnetic relaxation
(of water proton in liver, manganese encapsulated in liposomes in study of)
IT Imaging
(ESR, in magnetic imaging of liver with manganese encapsulated in liposome)
IT Liver
(Kupffer cell, manganese enhancement of water proton relaxation in, liposome delivery system for)
IT Imaging
(NMR, of liver with manganese encapsulated in liposome)
IT Pharmaceutical dosage forms
(liposomes, manganese encapsulated by, for liver proton relaxation studies, liposome compn. in relation to)
IT Imaging
(magnetic, manganese as **contrast agent** in, for liver, liposome delivery system in relation to)
IT **13699-48-4** **57-88-5**, Cholesterol, biological studies
2644-64-6 2954-45-2 4537-77-3, Dipalmitoylphosphatidylglycerol
RL: ANST (Analytical study)
(**liposomes** contg., manganese encapsulated in, for liver proton relaxation studies, **liposome** compn. in relation to)
IT 12586-59-3
RL: ANST (Analytical study)
(magnetic relaxation, of water proton in liver, manganese encapsulated in liposomes in study of)
IT 7439-96-5, Manganese, biological studies
RL: BIOL (Biological study)
(proton relaxation in liver response to, liposome delivery system in relation to)

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L40 ANSWER 1 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:833060 HCAPLUS
DOCUMENT NUMBER: 135:376741
TITLE: Stable metal ion-lipid powdered pharmaceutical compositions
INVENTOR(S): Dellamary, Luis A.; Riess, Jean; Schutt, Ernest G.; Weers, Jeffry G.; Tarara, Thomas E.
PATENT ASSIGNEE(S): Alliance Pharmaceutical Corp., USA
SOURCE: PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001085137	A2	20011115	WO 2001-US14824	20010508

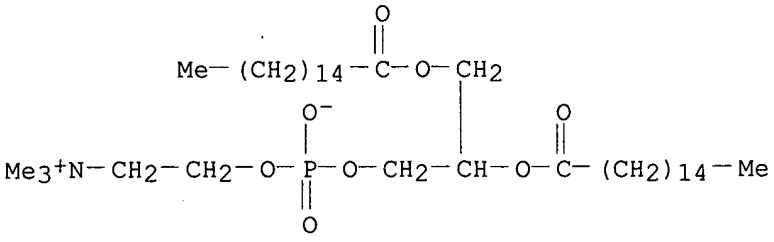
W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-568818 A 20000510

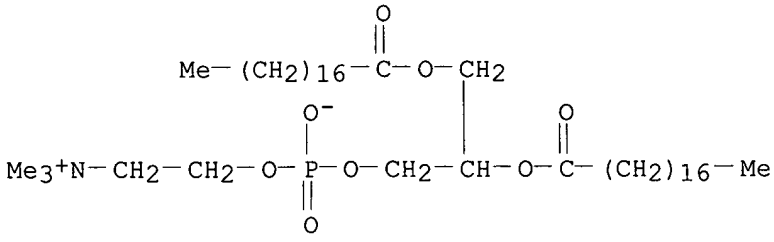
AB Microparticle compns. comprising metal ion-lipid complexes for drug delivery are described including methods of making the microparticle compns. and methods of treating certain conditions and disease states by administering the microparticle compns. The metal ion-lipid complexes can be combined with various drugs or active agents for therapeutic administration. The microparticle compns. of the present invention have superior stability to other microparticle compns. resulting in a microparticle compn. with longer shelf life and improved dispersability. The microparticle compns. of the present invention have a transition temp. (Tm) of at least 20.degree. above the recommended storage temp. (Tst) for drug delivery. An aq. prepn. was prepd. by mixing two prepns., A and B, immediately prior to spray drying. The prepn. A was comprised of a fluorocarbon-in-water emulsion in which 26 g perfluorooctyl bromide was dispersed in 33 g water with the aid of 1.30 g of SPC-3 emulsifier (hydrogenated soy phosphatidylcholine). The prepn. B contained 0.162 g CaCl2.2H20 and 0.162 g budesonide dissolved/suspended in 4 g water. The resulting microparticle of the sample had a PL-budesonide-CaCl2.2H20 wt. ratio of about 80:10:10. The mean vol. aerodynamic particle size of the dry powder was approx. 4.1 .mu.m.

IT **2644-64-6**, DPPC **4539-70-2**, DSPC **9005-25-8**, **Starch**, biological studies **9005-25-8D**, **Starch**, derivs., biological studies **18656-38-7**, DMPC **25104-18-1**, Poly(L-lysine) **25322-68-3**, Polyethylene glycol **38000-06-5**, Poly(L-lysine)
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(stable metal ion-lipid powd. pharmaceutical compns.)

RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



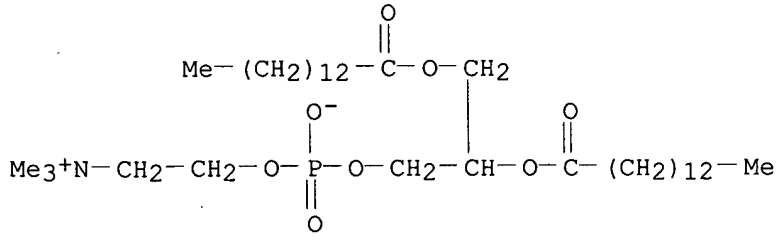
RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 9005-25-8 HCAPLUS
CN Starch (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9005-25-8 HCAPLUS
CN Starch (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 18656-38-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



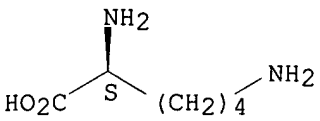
RN 25104-18-1 HCAPLUS
CN L-Lysine, homopolymer (9CI) (CA INDEX NAME)

CM 1

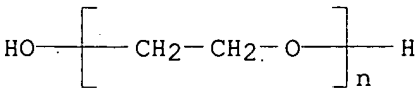
CRN 56-87-1
CMF C6 H14 N2 O2

CDES 5:L

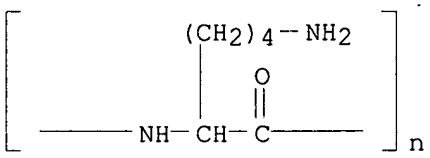
Absolute stereochemistry.



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 38000-06-5 HCAPLUS
CN Poly[imino[(1S)-1-(4-aminobutyl)-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



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L40 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:666681 HCAPLUS
DOCUMENT NUMBER: 135:247192
TITLE: Charged nucleic acid therapeutic agents encapsulated in lipid particles containing four lipid components
INVENTOR(S): Semple, Sean C.; Klimuk, Sandra K.; Harasym, Troy; Hope, Michael J.; Ansell, Steven M.; Cullis, Pieter; Scherrer, Peter; Debeyer, Dan
PATENT ASSIGNEE(S): Inex Pharmaceuticals Corp., Can.
SOURCE: U.S., 48 pp., Cont.-in-part of U.S. Ser. No. 856,374, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6287591	B1	20010911	US 1998-78954	19980514

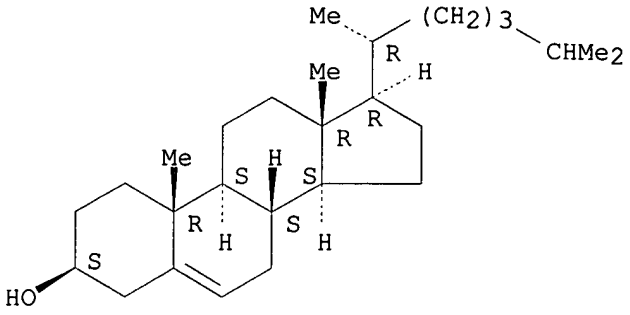
PRIORITY APPLN. INFO.: US 1997-856374 B2 19970514

AB Lipid-therapeutic agent particles are prepd. contg. a charged therapeutic agent encapsulated in lipid portion contg. at least two lipid components including a protonatable or deprotonatable lipid such as an amino lipid and a lipid that prevents particle aggregation during lipid-therapeutic agent particle formation such as a **PEG**-modified or polyamide oligomer-modified lipid. Other lipid components may also be present and these include a neutral lipid such as DSPC, POPC, DOPE or SM, and a sterol such as Chol. The therapeutic agent is encapsulated by combining a mixt. of the lipids with a buffered aq. soln. of a charged therapeutic agent to form an intermediate mixt. contg. lipid-encapsulated therapeutic agent particles, and changing the pH of the intermediate mixt. to neutralize at least some surface charges on the particles. The method permits high ratios of therapeutic agent to lipid and encapsulation efficiencies in excess of 50. The method is particularly useful for prepg. lipid-encapsulated nucleic acids such as an antisense polyanionic nucleic acid having exclusively phosphodiester linkages. The encapsulated nucleic acid can be contacted with a cell to introduce the nucleic acid into the cell such as for treatment or prevention of a disease characterized by aberrant expression of a gene. A pharmaceutical compn. may be prepd. contg. the lipid-encapsulated therapeutic agent particles and a carrier.

IT **57-88-5**, Cholesterol, biological studies **816-94-4**, Dspc **25322-68-3D**, Polyethylene glycol, conjugates **26662-91-9**, Popc
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

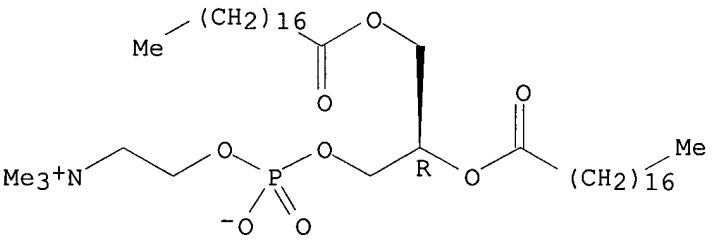
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

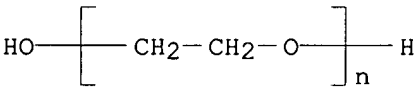


RN 816-94-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

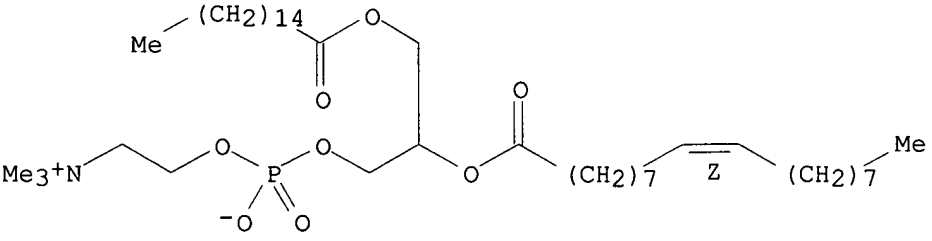


RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 26662-91-9 HCAPLUS
CN 3,5,8-Trioxa-4-phosphahexacos-17-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-9-oxo-7-[[(1-oxohexadecyl)oxy]methyl]-, inner salt, 4-oxide, (17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT **127464-60-2**, Vascular endothelial growth factor
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene encoding; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)
RN 127464-60-2 HCAPLUS
CN Vascular endothelial growth factor (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L40 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2002 ACS
IC ICM A61K009-127
ICS A61K031-70; C12N011-02; C12N015-88; C07H021-00
NCL 424450000
CC 63-5 (Pharmaceuticals)
ST antisense **gene therapy** liposome encapsulation
IT Cell adhesion molecules
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ICAM-1 (intercellular adhesion mol. 1), gene encoding; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)
IT Ceramides
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**PEG** conjugates; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)
IT Gene, animal
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(c-erbB2; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)
IT Gene, animal
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(c-myb; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)
IT Gene, animal
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(c-myc; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)
IT Drug delivery systems
(carriers; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)
IT Aggregation
Anti-inflammatory agents
Antitumor agents
Buffers
Gene targeting
Gene therapy
Infection
Inflammation
Neoplasm
Particle size distribution
pH
(charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)
IT Vascular endothelial growth factor receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)
IT Antisense oligonucleotides
Lipids, biological studies
Nucleic acids
Phosphorothioate oligonucleotides
Ribozymes
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**charged** nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT Polyamides, biological studies
Polyoxyalkylenes, biological studies
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(conjugates; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT Cell membrane
(delivery through; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT Epidermal growth factor receptors
Insulin-like growth factor I receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene encoding; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT Drug delivery systems
(injections, i.v.; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT Amino acids, biological studies
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(lipo; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT Drug delivery systems
(liposomes; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT Encapsulation
(microencapsulation; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT Phosphates, biological studies
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(phosphorodithioates, oligonucleotides; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT Gene, animal
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(raf; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT Gene, animal
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(ras; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT Dialysis
(tangential flow; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT Biological transport
(uptake; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT 77-92-9, citric acid, uses 7664-38-2, phosphoric acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(buffer; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT 110616-00-7 158914-43-3 159845-57-5 173896-76-9 181988-09-0, 1: PN: WO0004034 SEQID: 1 unclaimed DNA 181988-70-5, 6: PN: WO0004034 SEQID: 6 unclaimed DNA 186108-31-6, 3: PN: WO0004034 SEQID: 3 unclaimed DNA 189356-60-3 197878-21-0, GenBank I47033 197926-41-3 197926-53-7, 4: PN: US6323184 SEQID: 5 unclaimed DNA 259202-42-1 259368-77-9, GenBank AR071407 317402-49-6 325438-29-7, GenBank AX078053 359746-93-3 359746-94-4
RL: BPR (Biological process); PRP (Properties); THU (Therapeutic use);

BIOL (Biological study); PROC (Process); USES (Uses)
(charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT **57-88-5**, Cholesterol, biological studies **816-94-4**, Dspc 2462-63-7, Dope **25322-68-3D**, Polyethylene glycol, conjugates **26662-91-9**, Popc 127512-29-2
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT **127464-60-2**, Vascular endothelial growth factor
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene encoding; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT 64-17-5, ethanol, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

IT 141436-78-4, Protein kinase C
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(.alpha., gene encoding; charged nucleic acid therapeutic agents encapsulated in lipid particles contg. four lipid components)

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L40 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:519335 HCAPLUS
DOCUMENT NUMBER: 135:111977
TITLE: Diagnostic/therapeutic agents having **phospholipid**-based microbubbles coupled to one or more vectors
INVENTOR(S): Klaveness, Jo; Rongved, P.ANG.l; Hogset, Anders; Tolleshaug, Helge; Naevestad, Anne; Hellebust, Halldis; Hoff, Lars; Cuthbertson, Alan; Lovhaug, Dagfinn; Solbakken, Magne
PATENT ASSIGNEE(S): Nycomed Imaging As, Norway
SOURCE: U.S., 89 pp., Cont.-in-part of U.S. Ser. No. 958,993.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6261537	B1	20010717	US 1997-960054	19971029
CN 1234742	A	19991110	CN 1997-199047	19971028
US 6331289	B1	20011218	US 1997-959206	19971028
KR 2000052829	A	20000825	KR 1999-703658	19990427

PRIORITY APPLN. INFO.:

GB 1996-22366	A	19961028
GB 1996-22367	A	19961028
GB 1996-22368	A	19961028
GB 1997-699	A	19970115
GB 1997-8265	A	19970424
GB 1997-11842	A	19970606
GB 1997-11846	A	19970606
US 1997-49264	P	19970606
US 1997-49265	P	19970606
US 1997-49268	P	19970606
US 1997-958993	A2	19971028
GB 1996-22369	A	19961028
GB 1997-2195	A	19970204
GB 1997-11837	A	19970606
GB 1997-11839	A	19970606
US 1997-49263	P	19970607
US 1997-49266	P	19970607

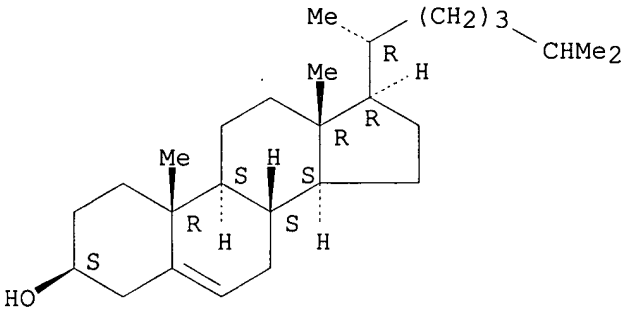
AB Targetable diagnostic and/or therapeutically active agents, e.g. ultrasound **contrast agents**, having reporters comprise gas-filled microbubbles stabilized by monolayers of film-forming surfactants, the reporter being coupled or linked to at least one vector. The gas is air, nitrogen, oxygen, carbon dioxide, hydrogen, an inert gas, a sulfur fluoride, selenium hexafluoride, a low mol. wt. hydrocarbon, a ketone, an ester, a halogenated low mol. wt. hydrocarbon or their mixts. The film-forming surfactant material is one or more **phospholipids** selected from the group consisting of phosphatidylserines, phosphatidylglycerols, phosphatidylinositols, phosphatidic acids and cardiolipins. A therapeutic agent is an antineoplastic agent, blood product, biol. response modifier, antifungal agent, hormone or hormone analog, vitamin, enzyme, antiallergic agent, tissue factor inhibitor, platelet inhibitor, coagulation protein target inhibitor, fibrin formation inhibitor, fibrinolysis promoter, antiangiogenic, circulatory drug, metabolic potentiator, antitubercular, antiviral, vasodilator, antibiotic,

anti-inflammatory, antiprotozoal, antirheumatic, narcotic, opiate, cardiac glycoside, neuromuscular blocker, sedative, local anesthetic, general anesthetic or genetic material. For example, an endothelial cell adhesion of phosphatidylserine-encapsulated perfluorobutane microbubbles coated with polylysine was higher than adhesion of uncoated microbubbles. Also, a thrombus was detected by ultrasound in patients with suspected venous thrombosis using i.v. phosphatidylserine-encapsulated microbubbles. The microbubbles contained inactivated human thrombin-succinyl-**PEG** 3400-distearoylphosphatidylethanolamine incorporated into the encapsulating membrane.

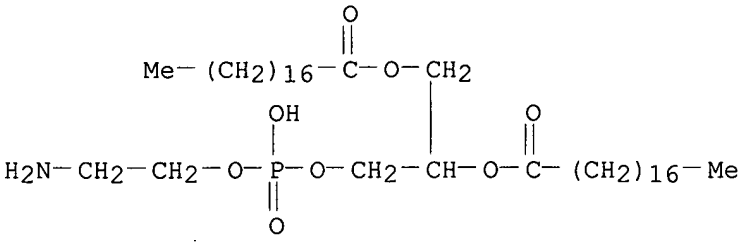
IT **57-88-5**, Cholesterol, reactions **4537-76-2**, Distearoylphosphatidylethanolamine
RL: RCT (Reactant)
(prepn. of diagnostic/therapeutic agents having **phospholipid** -based gas-filled microbubbles coupled to one or more vectors)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



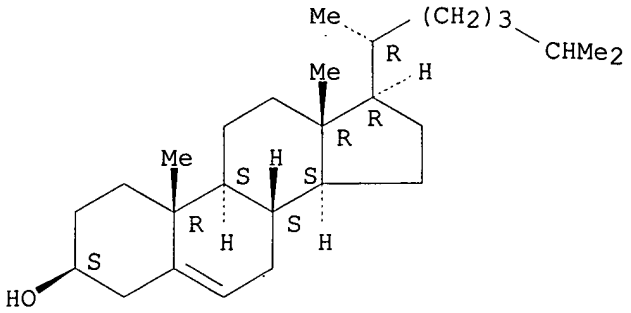
RN 4537-76-2 HCAPLUS
CN Octadecanoic acid, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



IT **57-88-5DP**, Cholesterol, conjugates with drugs **137056-72-5P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of diagnostic/therapeutic agents having **phospholipid** -based gas-filled microbubbles coupled to one or more vectors)

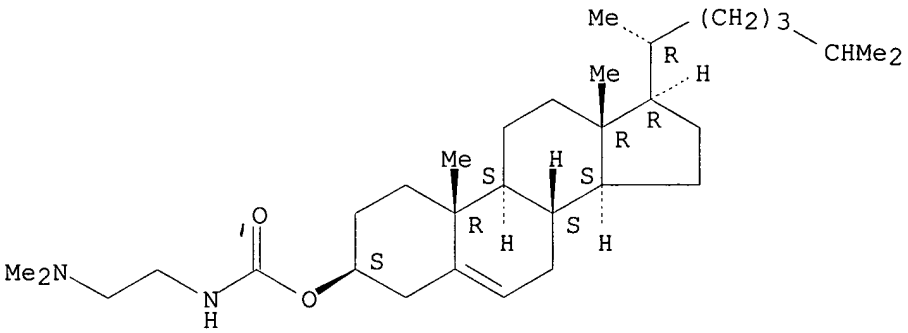
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

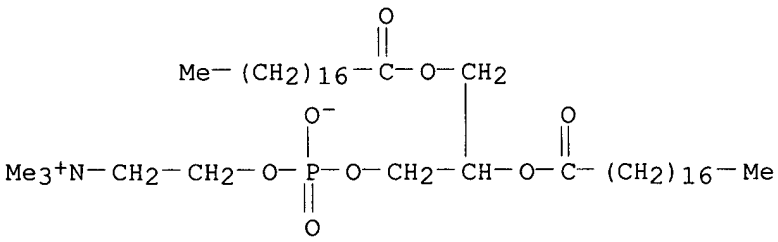


RN 137056-72-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, [2-(dimethylamino)ethyl]carbamate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **4539-70-2**, Distearoylphosphatidylcholine **25104-18-1**, Poly(L-lysine) **38000-06-5**, Poly(L-lysine)
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)
RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)

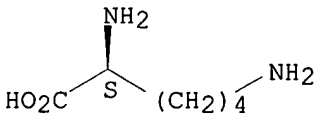


RN 25104-18-1 HCAPLUS
CN L-Lysine, homopolymer (9CI) (CA INDEX NAME)

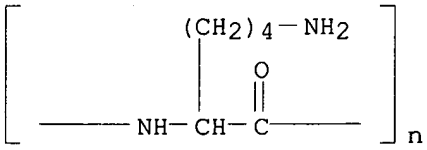
CM 1

CRN 56-87-1
CMF C6 H14 N2 O2
CDES 5:L

Absolute stereochemistry.



RN 38000-06-5 HCAPLUS
CN Poly[imino[(1S)-1-(4-aminobutyl)-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L40 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2002 ACS
IC ICM A61B008-00
ICS A61B005-055; A61K051-00; A61K049-04; A61K009-14
NCL 424009520
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 8
ST **phospholipid** surfactant peptide microbubble diagnostic therapeutic
IT Plasmid vectors
(BR322; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)
IT Selectins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(E-, antibodies against; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)
IT Cell adhesion molecules
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ICAM-1 (intercellular adhesion mol. 1), antibodies against; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)
IT **Imaging** agents
(acoustic **imaging contrast agents**; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)
IT Adrenoceptors
Interleukin 1
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(affinity for; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)
IT Diagnosis
(agents; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)
IT Hormones, animal, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(and analogs; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)
IT Transferrin receptors
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antibodies against and FITC-labeled; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)
IT CD34 (antigen)
Carcinoembryonic antigen
Selectins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(antibodies against; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)
IT Antibodies
RL: RCT (Reactant); RACT (Reactant or reagent)
(biotinylated; prepn. of diagnostic/therapeutic agents having

phospholipid-based gas-filled microbubbles coupled to one or more vectors)

IT Oligonucleotides
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(biotinylated; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Glycosides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cardiac; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Antibodies
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(conjugates, with polyethoxylated **phospholipid** deriv.; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Blood vessel
(endothelium, binding to; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT DNA
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fragments, fluorescein-labeled; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Anesthetics
(general; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Hydrocarbons, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(halo; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Fibrins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitors; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Drug delivery systems
(injections, i.v.; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT CD antigens
Integrins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(integrin .beta.5, binding to; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Perfluoro compounds
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ketones; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Avidins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(labeled; prepn. of diagnostic/therapeutic agents having

phospholipid-based gas-filled microbubbles coupled to one or more vectors)

IT Anesthetics
(local; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Hydrocarbons, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(low-mol.-wt.; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Drug delivery systems
(microbubbles; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Transferrins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(modified; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Ketones, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(perfluoro; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Perfluoro compounds
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(perfluoroalkyl ethers; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Ethers, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(perfluoroalkyl; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Air
Allergy inhibitors
Angiogenesis
Angiogenesis inhibitors
Anti-inflammatory agents
Antibiotics
Anticoagulants
Antirheumatic agents
Antitumor agents
Antiviral agents
Atherosclerosis
Blood products
Cardiovascular agents
Drug targeting
Encapsulation
Fibrinolytics
Fungicides
Gene therapy
Hypnotics and Sedatives
Narcotics
Neuromuscular blocking agents
Platelet aggregation inhibitors
Protozoacides
Surfactants
Thrombosis

Thrombus
Transformation, genetic
Tuberculostatics
Vasodilators
(prepn. of diagnostic/therapeutic agents having **phospholipid** -based gas-filled microbubbles coupled to one or more vectors)

IT Lipopeptides
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of diagnostic/therapeutic agents having **phospholipid** -based gas-filled microbubbles coupled to one or more vectors)

IT Cardiolipins
Enzymes, biological studies
Esters, biological studies
Fibronectins
Ketones, biological studies
Opioids
Peptides, biological studies
Perfluorocarbons
Phosphatidic acids
Phosphatidylglycerols
Phosphatidylinositols
Phosphatidylserines
Vitamins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of diagnostic/therapeutic agents having **phospholipid** -based gas-filled microbubbles coupled to one or more vectors)

IT Drug delivery systems
(prodrugs; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Metabolism, animal
(promoters; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Thiols (organic), reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction products with antibodies; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Drug delivery systems
(suspensions; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Antibodies
RL: RCT (Reactant); RACT (Reactant or reagent)
(thiolated; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Integrins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(.alpha.v.beta.3, binding to; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Integrins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(.alpha.v.beta.5, binding to; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Integrins

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(.alpha.2.beta.1, binding to; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Integrins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(.alpha.5, binding to; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Integrins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(.alpha.6, binding to; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Integrins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(.alpha.6.beta.1, binding to; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Integrins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(.beta.1, binding to; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT Integrins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(.beta.3, binding to; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT 27072-45-3, FITC
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(CD71 labeled with; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT 2321-07-5, Fluorescein
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(DNA fragments labeled with; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT 118790-78-6
RL: RCT (Reactant)
(crosslinker; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT 9002-04-4DP, Thrombin, reaction products with polyethoxylated **phospholipid** deriv.
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(inactivated; prepn. of diagnostic/therapeutic agents having **phospholipid**-based gas-filled microbubbles coupled to one or more vectors)

IT **57-88-5**, Cholesterol, reactions 75-31-0, Isopropylamine, reactions 106-89-8, Epichlorohydrin, reactions 108-00-9, 2-Dimethylaminoethylamine 108-30-5, Succinic anhydride, reactions 544-77-4, 1-Iodohexadecane 546-18-9, 5.beta.-Cholanic acid 1142-20-7 3303-84-2 **4537-76-2**, Distearoylphosphatidylethanolamine 7144-08-3, Cholesteryl chloroformate 14199-15-6, Methyl 4-hydroxyphenylacetate 55750-62-4, N-Succinimidyl-3-maleimidopropionate 62571-86-2, Captopril 72040-63-2 109292-46-8 125720-21-0 136268-87-6

RL: RCT (Reactant)
(prepn. of diagnostic/therapeutic agents having **phospholipid** -based gas-filled microbubbles coupled to one or more vectors)

IT 29121-23-1P 72224-27-2P 73670-24-3P 92548-59-9P 99518-27-1P 115399-07-0P 120074-77-3P 159156-96-4P 207287-12-5P 207287-28-3P 207287-31-8P 207292-75-9P 207292-78-2P 207403-10-9P 248253-82-9P 248253-84-1P 350256-59-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of diagnostic/therapeutic agents having **phospholipid** -based gas-filled microbubbles coupled to one or more vectors)

IT **57-88-5DP**, Cholesterol, conjugates with drugs 9013-20-1DP, Streptavidin, reaction products with polyethoxylated **phospholipid** deriv. 33276-37-8P **137056-72-5P** 148001-65-4P 195618-80-5P 207287-14-7P 207287-15-8P 207287-17-0P 207287-18-1P 207287-19-2P 207287-20-5P 207287-21-6P 207287-22-7P 207287-23-8P 207287-24-9P 207287-27-2P 207287-29-4P 207287-32-9P 207292-74-8P 207292-79-3P 207292-80-6P 207292-81-7P 207292-82-8P 207302-62-3P 207302-63-4P 207302-66-7P 207302-67-8P 207302-69-0P 207400-86-0P 248253-84-1DP, carboxylated, reaction products with streptavidin 350256-57-4P 350256-58-5P 350256-60-9P 350560-86-0DP, biotinylated
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of diagnostic/therapeutic agents having **phospholipid** -based gas-filled microbubbles coupled to one or more vectors)

IT 58-85-5, Biotin 58-85-5D, Biotin, reaction products with antibodies or oligonucleotides 59-05-2, Methotrexate 76-19-7, Perfluoropropane 124-38-9, Carbon dioxide, biological studies 355-25-9, Perfluorobutane 678-26-2, Perfluoropentane 1333-74-0, Hydrogen, biological studies 2551-62-4, Sulfur hexafluoride 4537-78-4, Distearoylphosphatidylglycerol **4539-70-2**, Distearoylphosphatidylcholine 7207-68-3, 3',5'-O-Dipalmitoyl-5-fluoro-2'-deoxyuridine 7727-37-9, Nitrogen, biological studies 7782-44-7, Oxygen, biological studies 7783-79-1, Selenium hexafluoride 9039-53-6, Urokinase 11075-17-5, Carboxypeptidase A **25104-18-1**, Poly(L-lysine) **38000-06-5**, Poly(L-lysine) 51446-62-9, Distearoylphosphatidylserine 52036-90-5, Sulfur fluoride 56124-62-0, N-Trifluoroacetyladriamycin-14-valerate 99896-85-2D, analogs 138757-15-0, .alpha.2-Antiplasmin 139612-03-6 139612-04-7 144601-95-6 158884-61-8D, reaction products with phosphatidylethanolamine derivs. 194554-71-7, Tissue factor inhibitor 234096-62-9
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of diagnostic/therapeutic agents having **phospholipid** -based gas-filled microbubbles coupled to one or more vectors)

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L40 ANSWER 4 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:416781 HCAPLUS
DOCUMENT NUMBER: 135:24706
TITLE: Carbon dioxide enhancement of inhalation therapy
INVENTOR(S): Waldrep, J. Clifford; Knight, J. Vernon; Koshkina, Nadezhda
PATENT ASSIGNEE(S): Research Development Foundation, USA
SOURCE: PCT Int. Appl., 66 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001039789	A1	20010607	WO 2000-US32637	20001201

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-169038 P 19991204

AB The present invention provides a method of increasing the deposition of aerosolized drug in the respiratory tract of an individual or animal, comprising the step of administering said aerosolized drug in an air mixt. contg. up to about 10% carbon dioxide gas. For example, sterically stabilized paclitaxel liposomes prepd. using dimyristylphosphoethanolamine poly(ethylene glycol) 2000 and dilauroylphosphatidylcholine were deposited in the lung at equiv. levels when 5% CO2-in-air was utilized. Treatment with 5% CO2 produced 5.7-fold higher area under the lung-concn.-time curve compared to normal air (33.7 and 5.9 .mu.g-h/g, resp.). In both cases paclitaxel concns. started to decrease from the pulmonary tissue after the treatment ended. T1/2.alpha. and T1/2.beta. values for paclitaxel in the lungs were 0.3 and 1.6 h, resp., when normal air is used for aerosol generation. T1/2.alpha. was 0.7 h and T1/2.beta. was 5.1 h for paclitaxel administered by liposome aerosol produced with 5% CO2-air. Comparative anal. for the other organs, such as liver, spleen, kidney and blood was also performed; however, the levels of paclitaxel in these tissues using normal air for aerosolization are below detectable levels. Also, nebulization of polyethylenimine-DNA complexes with 5% CO2 enhanced the transgene expression in lung compared to normal air, most likely due to increased deposition of aerosol particles.

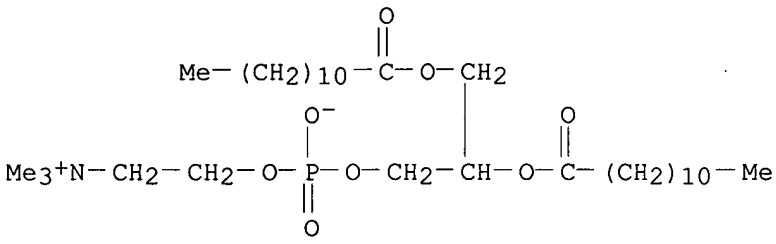
IT **9002-98-6**, Polyethylenimine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(carbon dioxide enhancement of deposition of aerosolized drug from polyethylenimine carrier with specific N/P ratio)
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N

IT **18656-40-1**, Dilauroylphosphatidylcholine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)
RN 18656-40-1 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheneicosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxododecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



IC ICM A61K038-00
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 1, 3
ST carbon dioxide drug delivery respiratory tract; aerosol inhalant respiratory tract carbon dioxide
IT Drug delivery systems
(aerosols; carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)
IT Antibiotics
Antitumor agents
Antiviral agents
Bronchodilators
Cholinergic agonists
Encapsulation
Expectorants
Gene therapy
Immunosuppressants
Respiratory tract
Virus vectors
(carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)
IT Antisense oligonucleotides
DNA
Enzymes, biological studies
Glucocorticoids
Oligonucleotides
Peptides, biological studies
Phosphatidylcholines, biological studies
Polymers, biological studies
Proteins, general, biological studies
p53 (protein)
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)

IT Polyelectrolytes
(cationic; carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)

IT Buffers
(drugs sol. in; carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)

IT **Phospholipids**, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ethoxylated; carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)

IT Drug delivery systems
(inhalants; carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)

IT Medical goods
(inhalers, jet; carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)

IT Drug delivery systems
(liposomes; carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)

IT Antitumor agents
(lung, metastasis; carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)

IT Lung, neoplasm
(metastasis, inhibitors; carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)

IT 7727-37-9, Nitrogen, biological studies 14265-44-2, Phosphate, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(carbon dioxide enhancement of deposition of aerosolized drug from polyethylenimine carrier with specific N/P ratio)

IT **9002-98-6**, Polyethylenimine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(carbon dioxide enhancement of deposition of aerosolized drug from polyethylenimine carrier with specific N/P ratio)

IT 124-38-9, Carbon dioxide, biological studies 1397-89-3, Amphotericin B 1400-61-9, Nystatin 7689-03-4, Camptothecin 9040-07-7, Chloramphenicol acetyl transferase **18656-40-1**, Dilauroylphosphatidylcholine 33069-62-4, Paclitaxel 211567-66-7
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(carbon dioxide enhancement of deposition of aerosolized drug in respiratory tract)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L40 ANSWER 5 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:241683 HCAPLUS
DOCUMENT NUMBER: 134:271256
TITLE: Methods of forming protein-linked lipidic microparticles, and compositions thereof
INVENTOR(S): Papahadjopoulos, Demetrios; Hong, Keelung; Zheng, Weiwen; Kirpotin, Dmitri B.
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: U.S., 26 pp., Cont.-in-part of U.S. Ser. No. 967,791. CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6210707	B1	20010403	US 1998-76618	19980512
US 6071533	A	20000606	US 1997-967791	19971110
WO 9958694	A1	19991118	WO 1999-US10375	19990511
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9939834	A1	19991129	AU 1999-39834	19990511
EP 1078079	A1	20010228	EP 1999-922950	19990511
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 2002001612	A1	20020103	US 2001-765107	20010116

PRIORITY APPLN. INFO.:			
US 1996-30578	P	19961112
US 1997-967791	A2	19971110
US 1998-76618	A	19980512
WO 1999-US10375	W	19990511

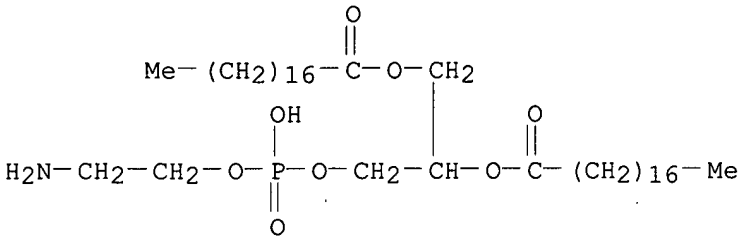
AB The present invention provides for lipid/nucleic acid complexes that have increased shelf life and high transfection activity in vivo following i.v. injection, and methods of prepg. such complexes. The methods generally involve contacting a nucleic acid with an org. polycation to produce a condensed nucleic acid, and then combining the condensed nucleic acid with a lipid comprising an amphiphilic cationic lipid to produce the lipid/nucleic acid complex. This complex can be further stabilized by the addn. of a hydrophilic polymer attached to hydrophobic side chains. The complex can also be made specific for specific cells, by incorporating a targeting moiety such as an Fab' fragment attached to a hydrophilic polymer. The present invention further relates to lipidic microparticles with attached proteins which have been first conjugated to linker mols. having a hydrophilic polymer domain and a hydrophobic domain capable of stable assocn. with the microparticle, or proteins which have been engineered to contain a hydrophilic domain and a lipid moiety permitting stable assocn. with the microparticle. For example, maleimido-propionylantido-**PEG**-distearoylphosphatidylethanolamine (Mal-**PEG**-DSPE) was prepd., conjugated with a single chain Fv antibody reactive against HER2 oncoprotein, and formulated into immunoliposomes for

targeting of HER2-overexpressing human breast cancer cells.

IT **4537-76-2**, Distearoylphosphatidylethanolamine
RL: RCT (Reactant)
(prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)

RN 4537-76-2 HCAPLUS

CN Octadecanoic acid, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

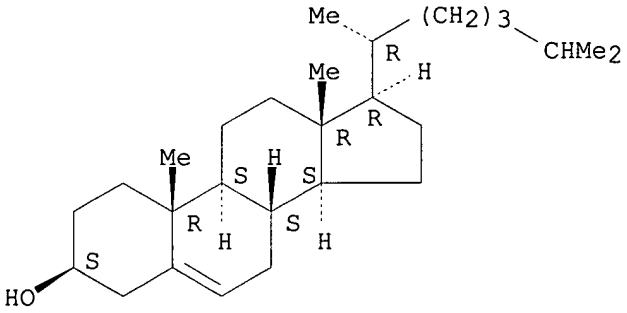


IT **57-88-5**, Cholesterol, biological studies **26662-91-9**, 1-Palmitoyl-2-oleoyl-phosphatidylcholine **137056-72-5**, DC-chol **216165-62-7 331942-29-1**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

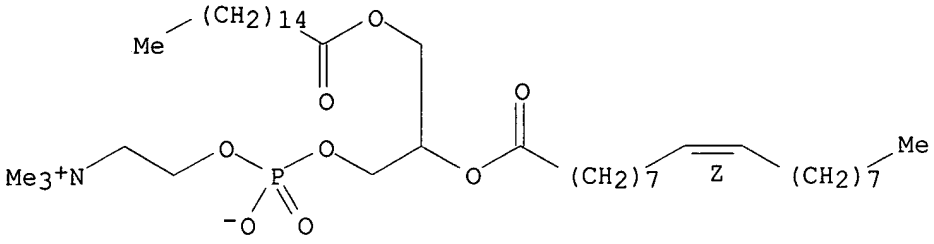
Absolute stereochemistry.



RN 26662-91-9 HCAPLUS

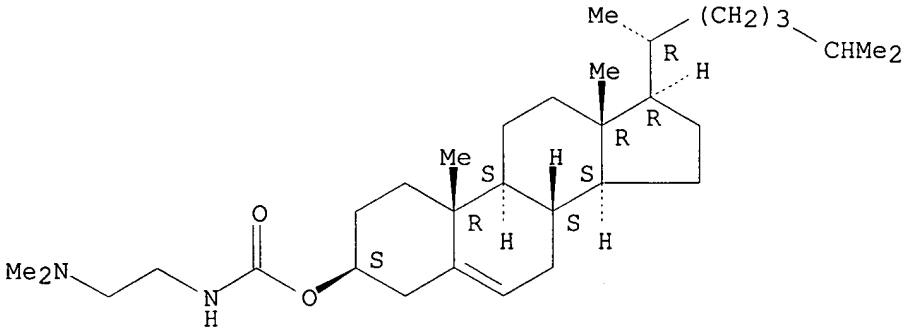
CN 3,5,8-Trioxa-4-phosphahexacos-17-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-9-oxo-7-[[(1-oxohexadecyl)oxy]methyl]-, inner salt, 4-oxide, (17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

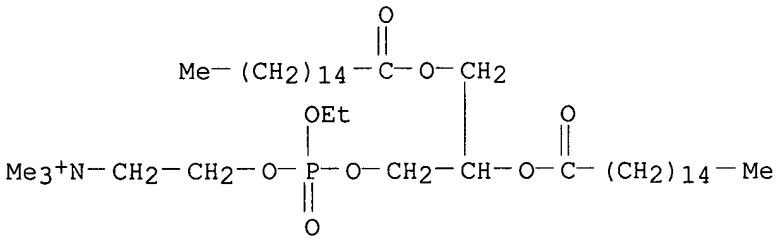


RN 137056-72-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, [2-(dimethylamino)ethyl]carbamate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

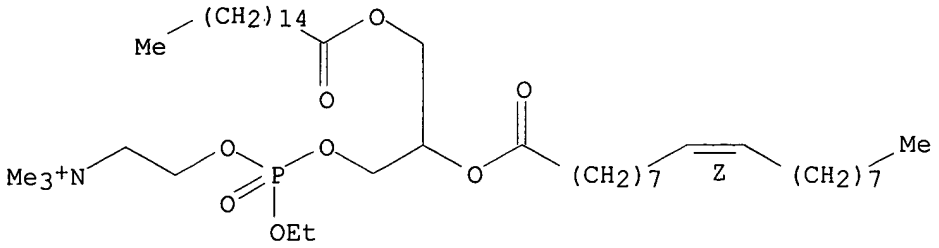


RN 216165-62-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-ethoxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, 4-oxide (9CI) (CA INDEX NAME)



RN 331942-29-1 HCAPLUS
CN 3,5,8-Trioxa-4-phosphahexacos-17-en-1-aminium, 4-ethoxy-N,N,N-trimethyl-9-oxo-7-[[(1-oxohexadecyl)oxy]methyl]-, 4-oxide, (17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IC ICM A61K009-127
NCL 424450000
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 1, 3
ST lipid protein microparticle nucleic acid targeting; antitumor lipid protein microparticle targeting; **gene therapy** lipid protein microparticle
IT Antibodies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Fab fragments; prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)
IT Polyelectrolytes
(cationic; prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)
IT neu (receptor)
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(cells overexpressing; prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)
IT Drug delivery systems
(immunoliposomes; prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)
IT Drug delivery systems
(injections, i.v.; prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)
IT Drug delivery systems
(liposomes; prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)
IT Antitumor agents
(mammary gland; prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)
IT Drug delivery systems
(microemulsions; prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)
IT Drug delivery systems
(microparticles; prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)
IT Mammary gland
(neoplasm, inhibitors; prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)
IT Proteins, specific or class
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleic acid-binding; prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)
IT Chromatography
Dialysis
Drug targeting
Gene therapy
Protein sequences

Salting-out
Transformation, genetic
(prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)

IT DNA
Enzymes, biological studies
Growth factors, animal
Hormones, animal, biological studies
Lipids, biological studies
Nucleic acids
Polymers, biological studies
Proteins, general, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)

IT Antibodies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(single chain Fv; prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)

IT 23214-92-8, Doxorubicin
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)

IT **4537-76-2**, Distearoylphosphatidylethanolamine 207308-06-3
RL: RCT (Reactant)
(prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)

IT 207403-10-9P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)

IT **57-88-5**, Cholesterol, biological studies 2462-63-7, DOPE
2591-17-5, D-Luciferin 3700-67-2, Dimethyldioctadecylammonium bromide
26662-91-9, 1-Palmitoyl-2-oleoyl-phosphatidylcholine
124050-77-7, DOGS 127512-29-2, DODAP **137056-72-5**, DC-chol
144189-73-1, DOTAP 178744-28-0 **216165-62-7** 321975-96-6
331942-29-1
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of protein-linked lipidic microparticles for targeting of nucleic acids)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr ind 6

L40 ANSWER 6 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:756557 HCAPLUS
DOCUMENT NUMBER: 133:340221
TITLE: Cationic **PEG**-lipids and methods of use
INVENTOR(S): Cullis, Pieter R.; Chen, Tao; Fenske, David B.; Palmer, Lorne R.; Wong, Kim
PATENT ASSIGNEE(S): University of British Columbia, Can.
SOURCE: PCT Int. Appl., 153 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

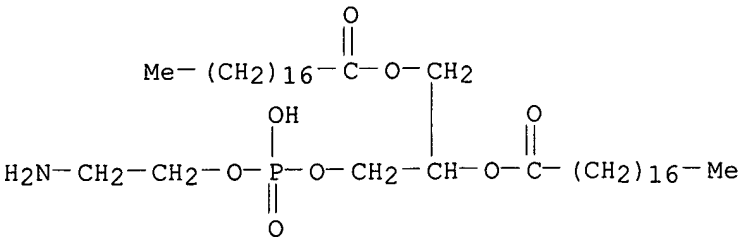
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000062813	A2	20001026	WO 2000-CA451	20000420
WO 2000062813	A3	20010809		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1173600	A2	20020123	EP 2000-920309	20000420
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
WO 2001080900	A2	20011101	WO 2001-CA555	20010420
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.:
US 1999-130151 P 19990420
US 2000-553639 A 20000420
WO 2000-CA451 W 20000420
US 2000-227949 P 20000825

AB The present invention provides cationic-polymer-lipid conjugates (CPLs) such as distal cationic-poly(ethylene glycol)-lipid conjugates which can be incorporated into conventional and stealth liposomes or other lipid-based formulation for enhancing cellular uptake. The CPLs of the present invention comprise a lipid moiety, a hydrophilic polymer; and a polycationic moiety. Method of increasing intracellular delivery of nucleic acids are also provided. For example, DSPE (121 mg) reacted with t-Boc-NH-**PEG** 3400-COONHS (500 mg) to obtain DSPE-**PEG** -NH2 as DSPE-CPL-1 with one protonable cationic group (yield 500 mg, 80%).

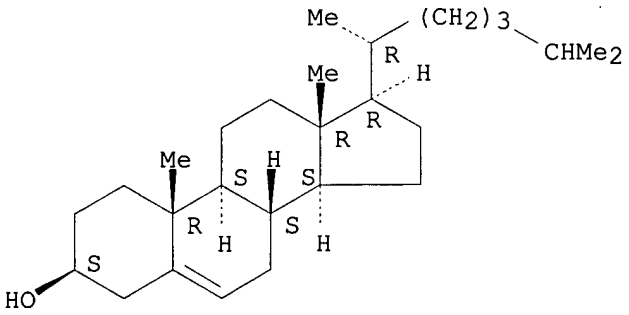
IT **4537-76-2**, Distearoylphosphatidylethanolamine
RL: RCT (Reactant)
(cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

RN 4537-76-2 HCAPLUS
CN Octadecanoic acid, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



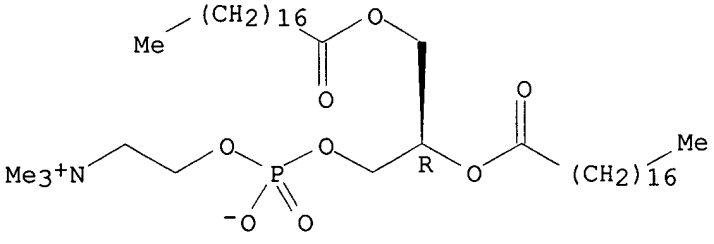
IT **57-88-5**, Cholesterol, biological studies **816-94-4**, Distearoylphosphatidylcholine **4235-95-4 25322-68-3**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cationic polymer-lipid conjugates for enhancing intracellular drug delivery)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 816-94-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

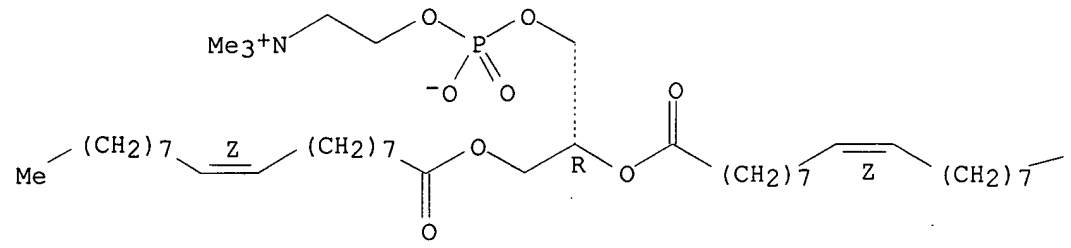


RN 4235-95-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (7R,18Z)-

(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

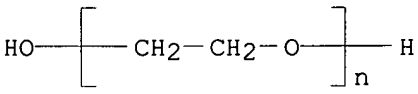
PAGE 1-A



PAGE 1-B

Me

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IC ICM A61K047-48
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 23, 35
ST cationic polymer lipid conjugate delivery system; polyethylene glycol lipid conjugate liposome; nucleic acid delivery **PEG** lipid conjugate PLGA
IT Phosphatidylethanolamines, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(alkyl analogs; cationic polymer-lipid conjugates for enhancing intracellular drug delivery)
IT Antibiotics
(anthracycline; cationic polymer-lipid conjugates for enhancing intracellular drug delivery)
IT Nutrients
(anti-; cationic polymer-lipid conjugates for enhancing intracellular drug delivery)
IT Virus
(artificial; cationic polymer-lipid conjugates for enhancing intracellular drug delivery)
IT Animal cell
(cationic polymer-lipid conjugates for enhancing cellular drug uptake)
IT Alkylating agents, biological
Antitumor agents

Drug delivery systems
Drug targeting
Gene therapy
Micelles
Particle size
Stabilizing agents
Transformation, genetic
(cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT DNA
Oligonucleotides
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT Anthracyclines
Nucleic acids
Nucleoside analogs
Polyamides, biological studies
Polyesters, biological studies
Polyoxyalkylenes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT Polyelectrolytes
(cationic; cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT Nucleic acids
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(complexes; cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT Polyesters, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hydroxycarboxylic acid-based; cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT Polyesters, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(lactic acid-based; cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT Drug delivery systems
(liposomes; cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT Biological transport
(uptake; cationic polymer-lipid conjugates for enhancing cellular drug uptake)

IT Drug delivery systems
(virosomes; cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT 59-05-2, Methotrexate 120-73-0D, Purine, analogs 289-95-2D, Pyrimidine, analogs
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT 7440-70-2, Calcium, biological studies
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT 1101-84-4 **4537-76-2**, Distearoylphosphatidylethanolamine
30189-36-7 159156-96-4

RL: RCT (Reactant)
(cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT 280577-48-2P 280577-49-3P 280577-50-6P 280577-52-8P 280577-54-0P
280577-56-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT 280577-51-7P
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT 159156-98-6P 280577-53-9P 280577-55-1P 280577-57-3P 303174-41-6P
303174-42-7P 303174-43-8P 303174-44-9P 303174-45-0P 303174-46-1P
303174-47-2P 303174-48-3P 303174-49-4P 303174-50-7P 303174-51-8P
303174-52-9P 303174-53-0P 303174-54-1P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT 50-76-0, Actinomycin D 57-22-7, Vincristine **57-88-5**,
Cholesterol, biological studies 147-94-4, Cytosine arabinoside
816-94-4, Distearoylphosphatidylcholine 865-21-4, Vinblastine
4004-05-1, Dioleoylphosphatidylethanolamine **4235-95-4**
7212-69-3, DODAC 7440-06-4D, Platinum, compds. **25322-68-3**
26009-03-0, Poly(glycolic acid) 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26100-51-6, Poly(lactic acid) 26124-68-5, Poly(glycolic acid) 26780-50-7, Poly(glycolide-co-lactide) 171966-03-3 211567-61-2
211567-62-3 211567-64-5
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

IT 9026-81-7, Nuclease
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(protection against serum; cationic polymer-lipid conjugates for enhancing intracellular drug delivery)

=> d ibib abs hitstr ind 7

L40 ANSWER 7 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:755211 HCAPLUS
DOCUMENT NUMBER: 133:340208
TITLE: Novel compositions useful for delivering anti-inflammatory agents into a cell
INVENTOR(S): Unger, Evan C.; McCreery, Thomas; Sadewasser, David A.
PATENT ASSIGNEE(S): ImaRx Pharmaceutical Corp., USA
SOURCE: Eur. Pat. Appl., 78 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1046394	A2	20001025	EP 2000-303249	20000418
EP 1046394	A3	20011010		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

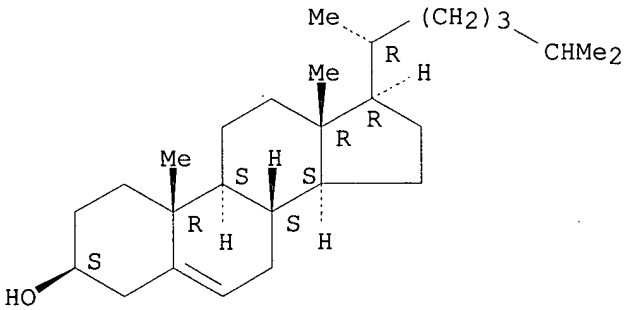
PRIORITY APPLN. INFO.: US 1999-294623 A 19990419

AB The present invention is directed, inter alia, to compns. and their use for delivering compds. into a cell. In a preferred embodiment, the compns. comprise, in combination with the compd. to be delivered, an org. halide, a targeting ligand, and a nuclear localization sequence, optionally in the presence of a carrier. Ultrasound may be applied, if desired. The compns. are particularly suitable for the treatment of inflammatory diseases.

IT **57-88-5**, Cholesterol, biological studies **57-88-5D**, Cholesterol, esters **4235-95-4**, Dopc **25322-68-3D**, derivs. **137056-72-5**, DC-Chol **183283-19-4**, Edmpc
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(drug carrier; peptide compns. useful for delivering anti-inflammatory agents into a cell)

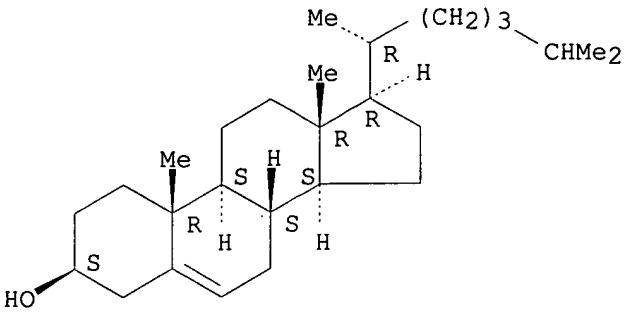
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

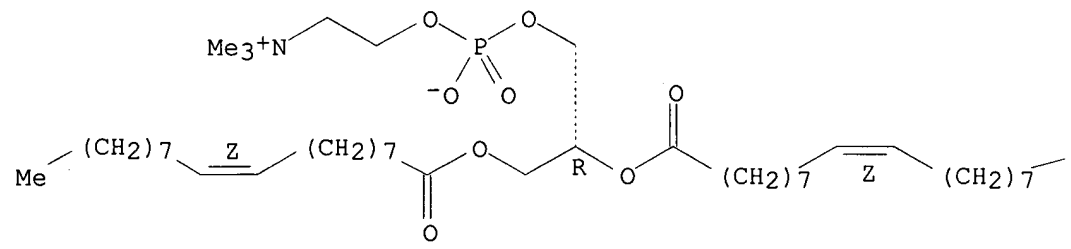
Absolute stereochemistry.



RN 4235-95-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (7R,18Z)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

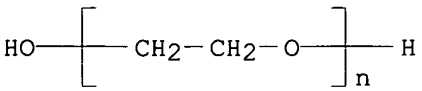
PAGE 1-A



PAGE 1-B

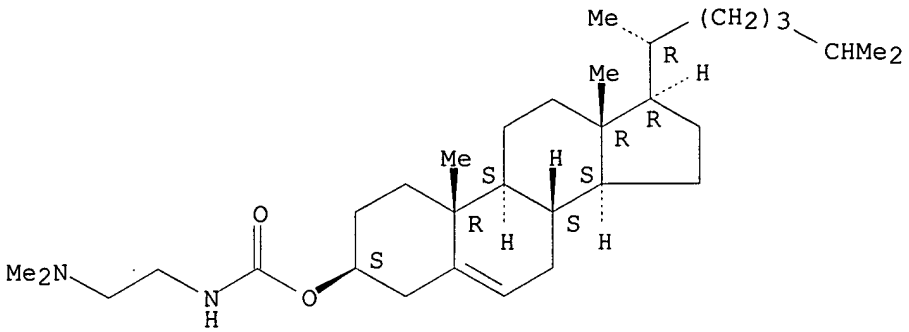
Me

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



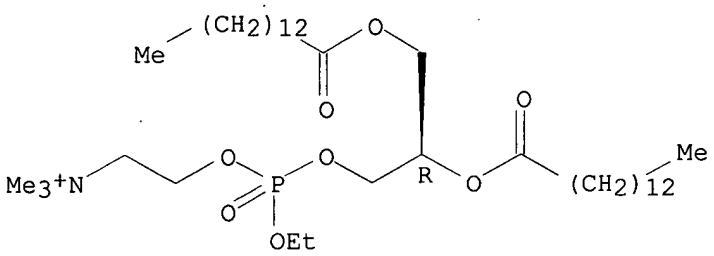
RN 137056-72-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, [2-(dimethylamino)ethyl]carbamate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 183283-19-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-ethoxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IC ICM A61K009-127
ICS A61K048-00; C12N015-88
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 34
ST drug delivery antiinflammatory carrier
IT Protein motifs
(NLS (nuclear localization signal); peptide compns. useful for delivering anti-inflammatory agents into a cell)
IT Carbohydrates, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(aldoses, polymers, drug carrier; peptide compns. useful for delivering anti-inflammatory agents into a cell)
IT Polyoxyalkylenes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(derivs., drug carrier; peptide compns. useful for delivering anti-inflammatory agents into a cell)
IT Diglycerides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(digalactosyl, drug carrier; peptide compns. useful for delivering anti-inflammatory agents into a cell)
IT Sound and Ultrasound
(drug carrier; peptide compns. useful for delivering anti-inflammatory agents into a cell)
IT Cardiolipins
Glycolipids
Glycosphingolipids
Phospholipids, biological studies
Plasmalogens

Sphingolipids
Sphingomyelins
Sulfatides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(drug carrier; peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT Lipids, biological studies
Phosphatidylcholines, biological studies
Phosphatidylethanolamines, biological studies
Polymers, biological studies
Proteins, general, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(drug carriers; peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT Carbohydrates, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ketoses, polymers, drug carrier; peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT Halides
RL: RCT (Reactant)
(org.; peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT Anti-inflammatory agents
Cations
Drug targeting
Gene therapy
Genetic vectors
Protein sequences
(peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT Interleukin 1 receptors
Tumor necrosis factor receptors
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT Antisense oligonucleotides
Ribozymes
RL: BPR (Biological process); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT Perfluorocarbons
RL: RCT (Reactant)
(peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT Drug delivery systems
(targeted; peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT Proteins, specific or class
RL: BOC (Biological occurrence); BPR (Biological process); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(targeting ligands; peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT Interferon receptors
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(.gamma.-interferon; peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT 57-09-0, Ctab **57-88-5**, Cholesterol, biological studies
57-88-5D, Cholesterol, esters 124-30-1, Stearylamine 926-63-6,

Dimethylammonium propane 1398-61-4, Chitin 2462-63-7, Dope 3282-73-3, Ddab 3614-36-6, **Diacetyl** phosphate **4235-95-4**, Dopc 4458-31-5, Diethylammonium propane 6561-76-8, Dcpe 9000-07-1, Carrageenan 9000-69-5, Pectin 9002-88-4D, Polyethylene, derivs. 9003-07-0D, Polypropylene, derivs. 9003-39-8, Polyvinylpyrrolidone 9004-32-4, Carboxymethylcellulose 9004-34-6, Cellulose, biological studies 9004-54-0, Dextran, biological studies 9004-61-9, Hyaluronic acid 9004-65-3, Hydroxypropyl methylcellulose 9005-32-7, Alginic acid 9005-79-2, Glycogen, biological studies 9005-82-7, Amylose 9007-27-6, Chondroitin 9012-36-6, Agarose 9012-72-0D, Glucan, derivs. 9013-95-0D, Levan, derivs. 9014-63-5D, Xylan, derivs. 9037-22-3, Amylopectin 9037-55-2D, Galactan, derivs. 9037-90-5D, Fructan, derivs. 9046-38-2D, Galacturonan, derivs. 9046-40-6, Pectic acid 9057-02-7, Pullulan 9060-75-7D, Arabinan, derivs. 9072-19-9, Fucoidan 20064-29-3, Trimethylammonium propane 24305-42-8, Triethylammonium propane 24529-88-2 **25322-68-3D**, derivs. 37331-28-5, Pustulan 60495-58-1, Galactocarolose 64612-25-5D, Fucan, derivs. 68354-92-7 69992-87-6, Keratan 73294-85-6 75634-40-1, Dermatan 76822-97-4 78543-25-6 83554-62-5 106392-12-5D, Pluronic, derivs. 108032-13-9 115534-33-3, Tmadph 124050-77-7, Transfectam 124076-29-5 127512-30-5 128835-92-7, Lipofectin 132172-61-3 **137056-72-5**, DC-Chol 144189-73-1, Dotap 145310-87-8, Transfectace 153312-64-2, DMRIE 158571-62-1, Lipofectamine 161293-59-0 161441-83-4 **183283-19-4**, Edmpc 186198-32-3 199171-54-5, DLRIE 201491-17-0, Cytofectin 208040-06-6, GAP-DLRIE 225940-35-2, glycero-3-Ethylphosphatidylcholine 282533-23-7, Dospa 303097-27-0 303097-29-2 303097-31-6 303097-33-8 303097-35-0
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(drug carrier; peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT 50-69-1D, Ribose, polymers 50-99-7D, Glucose, polymers 57-48-7D, Fructose, polymers 58-86-6D, Xylose, polymers 59-23-4D, Galactose, polymers 65-42-9D, Lyxose, polymers 87-79-6D, Sorbose, polymers 114-04-5D, Neuraminic acid, polymers 147-81-9D, Arabinose, polymers 526-95-4D, Gluconic acid, polymers 551-84-8D, Xylulose, polymers 685-73-4D, Galacturonic acid, polymers 1758-51-6D, Erythrose, polymers 2152-76-3D, Idose, polymers 3416-24-8D, Glucosamine, polymers 3458-28-4D, Mannose, polymers 5556-48-9D, Ribulose, polymers 5987-68-8D, Altrose, polymers 6038-51-3D, Allose, polymers 6556-12-3D, Glucuronic acid, polymers 6814-36-4D, Mannuronic acid, polymers 7535-00-4D, Galactosamine, polymers 15769-56-9D, Guluronic acid, polymers 17598-81-1D, Tagatose, polymers 19163-87-2D, Gulose, polymers 23140-52-5D, Psicose, polymers 25525-21-7D, Glucaric acid, polymers 29884-64-8D, Threose, polymers 30077-17-9D, Talose, polymers 40031-31-0D, Erythrulose, polymers
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(drug carriers; peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT 128434-84-4 152551-92-3 162211-69-0 169551-85-3 174490-46-1 253674-07-6 260055-30-9 303096-78-8 303096-80-2 303096-82-4 303096-84-6 303096-86-8 303096-88-0 303096-91-5 303096-93-7 303096-95-9 303096-96-0 303096-98-2 303097-00-9 303097-02-1 303097-04-3 303097-06-5 303097-12-3
RL: BPR (Biological process); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(nuclear localization sequence; peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT 75-71-8, Dichlorodifluoromethane 75-72-9, Chlorotrifluoromethane

75-73-0, Perfluoromethane 76-14-2, Dichloro-1,1,2,2-tetrafluoroethane 76-15-3 76-16-4, Perfluoroethane 76-19-7, Perfluoropropane 115-25-3, Perfluorocyclobutane 116-15-4, Perfluoropropylene 127-21-9, 1,3-Dichlorotetrafluoroacetone 306-94-5, Perfluorodecalin 307-34-6, Perfluorooctane 307-45-9, Perfluorodecane 307-59-5 311-89-7, Perfluorotributylamine 335-57-9, Perfluoroheptane 338-64-7, 1,2-Difluorochloroethane 338-65-8 338-83-0, Perfluorotripropylamine 348-57-2 350-51-6, 3-Fluorostyrene 353-59-3, Bromochlorodifluoromethane 353-83-3 354-58-5 355-25-9, Perfluorobutane 355-42-0, Perfluorohexane 355-68-0, Perfluorocyclohexane 355-79-3, Perfluorotetrahydropyran 356-62-7, Bis(perfluoropropyl) ether 358-21-4, Perfluorodiethyl ether 359-37-5, Iodotrifluoroethylene 360-89-4, Perfluoro-2-butene 372-39-4, 3,5-Difluoroaniline 375-03-1, Perfluoropropyl methyl ether 375-48-4, 1-Bromo-nonafluorobutane 375-96-2, Perfluorononane 377-36-6, 1,1,2,2,3,3,4,4-Octafluorobutane 392-42-7 400-44-2 406-58-6, 1,1,1,3,3-Pentafluorobutane 407-47-6, 2,2,2-Trifluoroethylacrylate 423-55-2, Perfluorooctylbromide 431-07-2 455-88-9, 2-Fluoro-5-nitrotoluene 456-48-4, 3-Fluorobenzaldehyde 507-63-1, Perfluorooctyliodide 593-98-6, 1-Chloro-1-fluoro-1-bromomethane 662-35-1 665-16-7, Perfluoromethyl ethyl ether 677-69-0, Heptafluoro-2-iodopropane 678-26-2, Perfluoropentane 685-63-2, Perfluorobuta-1,3-diene 692-50-2, Perfluoro-2-butyne 706-82-1, Perfluorocyclobutyl methyl ether 873-88-1, Perfluorocyclopropyl methyl ether 1479-49-8, Perfluorodimethyl ether 1584-03-8, Perfluoro-2-methyl-2-pentene 1649-08-7 1717-00-6 1842-05-3 1868-53-7, Dibromofluoromethane 2252-78-0 2366-52-1, 1-Fluorobutane 2551-62-4, Sulfur hexafluoride 4509-90-4, 5-Bromovaleryl chloride 5681-36-7, Dppe 7783-79-1, Selenium hexafluoride 7789-30-2, Bromine pentafluoride 13782-76-8, Perfluorobutyl ethyl ether 22052-84-2, Perfluoroisopropyl methyl ether 22052-86-4, Perfluoro-propyl ethyl ether 22137-14-0, Perfluoroisopropyl ethyl ether 24991-53-5, Polyethylene glycol diamine 30283-91-1, Bromotrifluoroethane 62700-58-7D, 3-Nitro-4-bromomethylbenzoylamide, polystyrene resin conjugates 66670-22-2, Perfluoro-tert-butyl methyl ether 79886-55-8 83935-39-1, Bis(perfluoroisopropyl) ether 86563-85-1, Perfluoro-4-methylquinolizidine 86714-21-8, Perfluoro-N-cyclohexyl pyrrolidine 125646-14-2, Dipalmitoylglycerol succinate 163702-07-6, Perfluoro-butyl methyl ether 163702-08-7, Perfluoro-isobutyl methyl ether 170141-63-6, 3-(Trifluoromethoxy)-acetophenone 199171-49-8 199171-50-1 225940-34-1, Perfluorocyclopropyl ethyl ether 303096-50-6 303745-45-1
RL: RCT (Reactant)
(peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT 95088-49-6P, PKKKRKV 106096-93-9DP, Basic fibroblast growth factor, lipopolyethyleneglycol conjugates 113846-31-4P 120178-12-3DP, Telomerase, lipopolyethyleneglycol conjugates 139729-27-4P 270564-30-2P 303096-37-9P 303096-39-1P 303096-41-5P 303096-43-7P 303096-46-0P 303096-53-9P 303745-43-9P 303745-44-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT 303096-30-2P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(peptide compns. useful for delivering anti-inflammatory agents into a cell)

IT 9036-88-8D, Mannan, derivs. 68354-99-4
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(peptide compns. useful for delivering anti-inflammatory agents into a

cell)

IT 172726-14-6 303764-62-7 303764-63-8 303764-64-9 303764-65-0
303764-66-1 303764-67-2 303764-68-3 303764-69-4 303764-70-7
303764-71-8 303764-72-9 303764-73-0
RL: PRP (Properties)
(unclaimed sequence; novel compns. useful for delivering anti-inflammatory agents into a cell)

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L40 ANSWER 8 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:277886 HCAPLUS
DOCUMENT NUMBER: 132:313680
TITLE: Treatment of trauma such as graft rejection with liposomes containing DNA encoding for CTLA4Ig or for anti-CD40 ligand
INVENTOR(S): Baru, Moshe
PATENT ASSIGNEE(S): Opperbas Holding B.V., Neth.
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000023115	A1	20000427	WO 1999-IL547	19991020
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9963639	A1	20000508	AU 1999-63639	19991020
EP 1123115	A1	20010816	EP 1999-951067	19991020
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

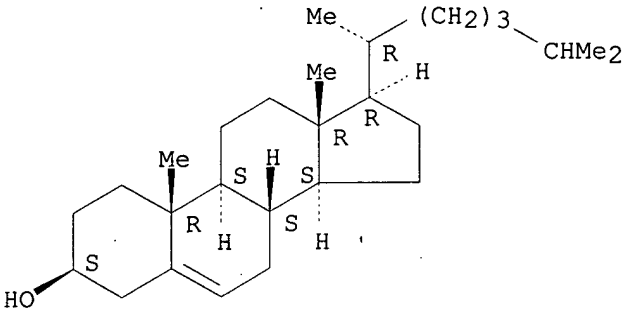
PRIORITY APPLN. INFO.: IL 1998-126681 A 19981021
WO 1999-IL547 W 19991020

AB A method is provided for treatment or prevention of trauma-related damage in an organ or tissue of an individual which is based on administering to the individual liposomes which encapsulate either nucleic acid mols. comprising an expressible sequence encoding a damage-preventing or a damage-reducing expression product, a damage-preventing or damage-reducing proteinaceous substance or a combination of such nucleic acid mols. and proteinaceous substances. Pharmaceutical compns. comprising such liposomes for use in the treatment or prevention of trauma-related damage in an organ or tissue are also provided. The trauma-related damage may be a variety of situations where an organ or a tissue is subjected to stressful conditions which may effect its normal function such as trauma-related damage resulting from transplantation procedures, from resection, viral infections, perfusion injuries such as ischemia, etc.

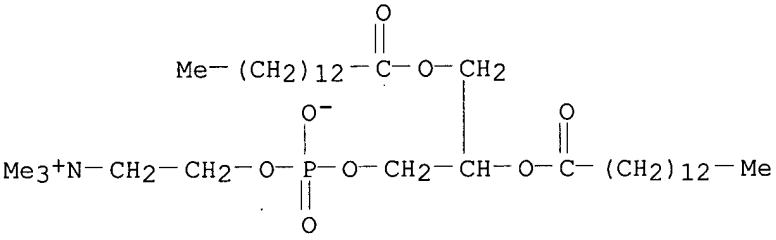
IT **57-88-5**, Cholesterol, biological studies **18656-38-7**, Dmpc
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 18656-38-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



IC ICM A61K048-00
ICS A61K038-00; A61K039-395; A61K038-17; A61P037-06; A61K009-127
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 15
ST graft rejection prevention liposome **gene therapy**; CTLA4Ig **gene therapy** graft rejection; CD40L antibody **gene therapy** graft rejection
IT Glycoproteins, specific or class
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(CD40-L (antigen CD40 ligand), Ig specific for; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT CTLA-4 (antigen)
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Ig specific for; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT Biliary tract
(bile duct, liposome administration via; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT Antibodies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(genes encoding; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT Cytokines
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(immunosuppressant; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)

IT Drug delivery systems
(liposomes; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT Encapsulation
(microencapsulation; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT Drug delivery systems
(parenterals; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT Blood vessel
(proximal to target organ; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT Cell cycle
Cell proliferation
(regulators; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT Surgery
(resection; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT **Phospholipids**, biological studies
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(satd.; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT **Phospholipids**, biological studies
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(soya; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT Injury
(trauma; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT **Gene therapy**
Immunosuppressants
Ischemia
Liver
Plasmid vectors
Transplant and Transplantation
Transplant rejection
(treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT DNA
Phosphatidylcholines, biological studies
Promoter (genetic element)
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT **Phospholipids**, biological studies
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(unsatd.; treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
IT **57-88-5**, Cholesterol, biological studies **18656-38-7**, Dmpc 62700-69-0, Dopg 70614-14-1, Dops
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(treatment of trauma such as graft rejection with liposomes contg. DNA encoding for CTLA4Ig or for anti-CD40 ligand)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L40 ANSWER 9 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:350607 HCAPLUS
DOCUMENT NUMBER: 131:14825
TITLE: A method of increasing nucleic acid synthesis with ultrasound
INVENTOR(S): Unger, Evan C.; McCreery, Thomas; Sadewasser, David
PATENT ASSIGNEE(S): Imarx Pharmaceutical Corp., USA
SOURCE: PCT Int. Appl., 124 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9925385	A1	19990527	WO 1998-US23843	19981111
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9913906	A1	19990607	AU 1999-13906	19981111

PRIORITY APPLN. INFO.: US 1997-971540 19971117
WO 1998-US23843 19981111
OTHER SOURCE(S): MARPAT 131:14825

AB The present invention is directed to a method of increasing nucleic acid synthesis in a cell comprising administering to the cell a therapeutically effective amt. of ultrasound for a therapeutically effective time such that said administration of said ultrasound results in said increased nucleic acid synthesis. The nucleic acid sequence may comprise an endogenous sequence or an exogenous sequence. In particular, the invention is directed to increasing the expression of stress proteins and repair proteins.

IT **57-10-3**, Palmitic acid, biological studies **57-11-4**, Octadecanoic acid, biological studies **57-88-5**, Cholesterol, biological studies **57-88-5D**, Cholesterol, derivs. **2644-64-6**, Dipalmitoylphosphatidylcholine **4235-95-4**, DOPC **4539-70-2**, Distearoylphosphatidylcholine **18656-38-7**, Dimyristoylphosphatidylcholine **18656-40-1**, Dilauroylphosphatidylcholine **25322-68-3D**, Polyethylene glycol, alcs. **67896-63-3**, Dipentadecanoylphosphatidylcholine **68737-67-7**, Dioleoylphosphatidylcholine **137056-72-5**, DC-Chol **183283-19-4**, EDMPC **225940-43-2**
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(carrier; method of increasing nucleic acid synthesis with ultrasound)

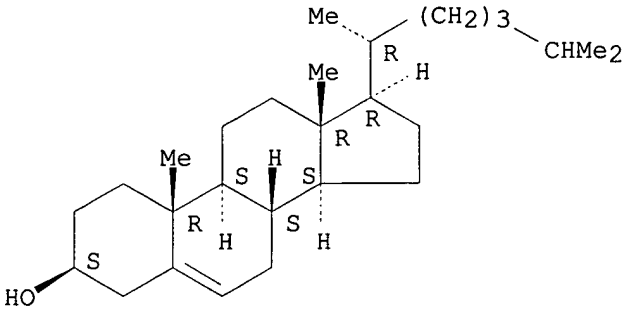
RN 57-10-3 HCAPLUS
CN Hexadecanoic acid (9CI) (CA INDEX NAME)

$HO_2C-(CH_2)_{14}-Me$

RN 57-11-4 HCAPLUS
CN Octadecanoic acid (9CI) (CA INDEX NAME)

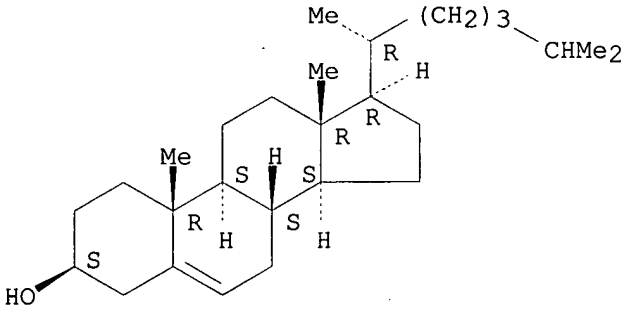
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

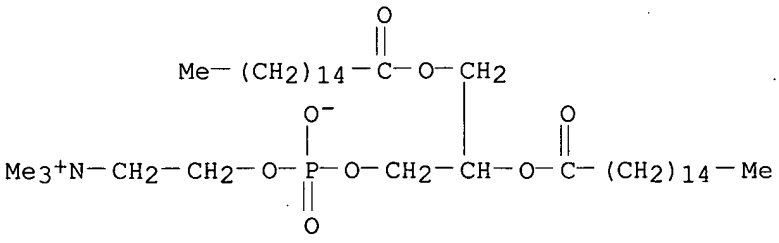


RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



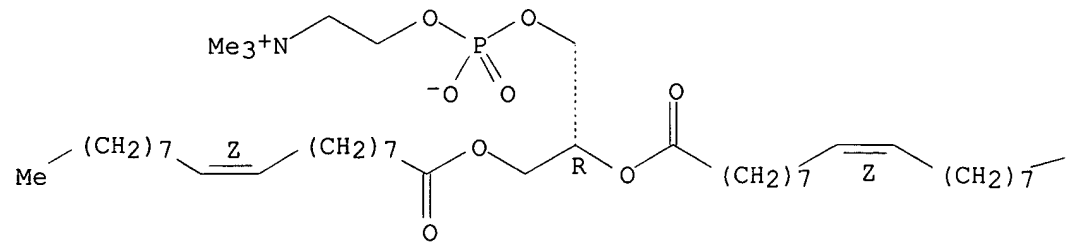
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 4235-95-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (7R,18Z)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

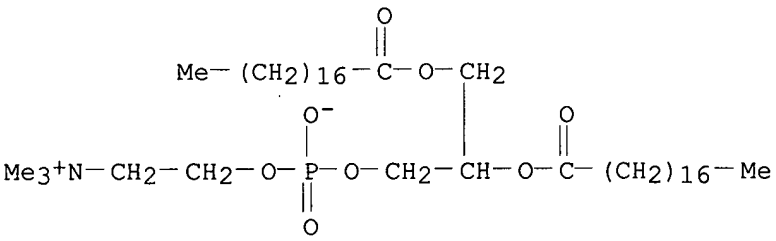
PAGE 1-A



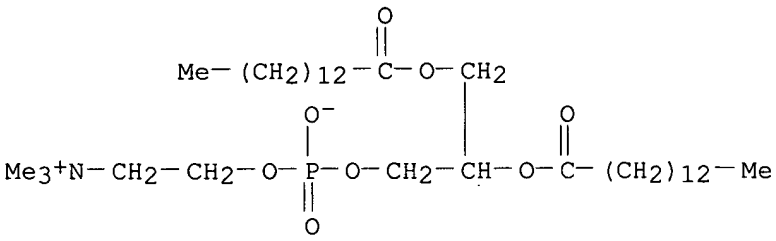
PAGE 1-B

Me

RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)

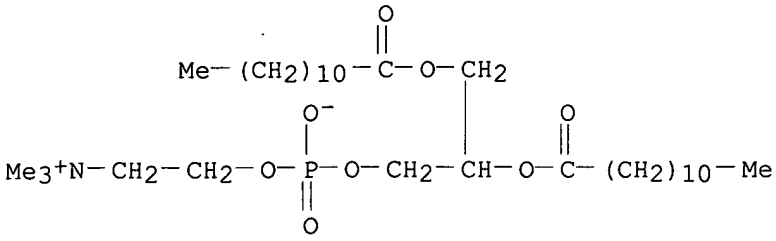


RN 18656-38-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)

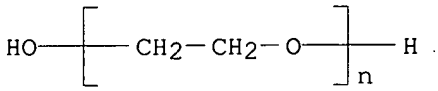


RN 18656-40-1 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheneicosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-

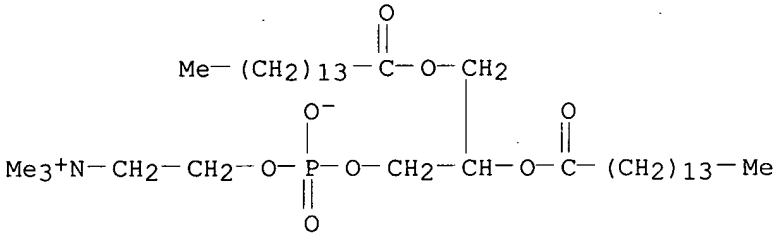
oxo-7-[(1-oxododecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



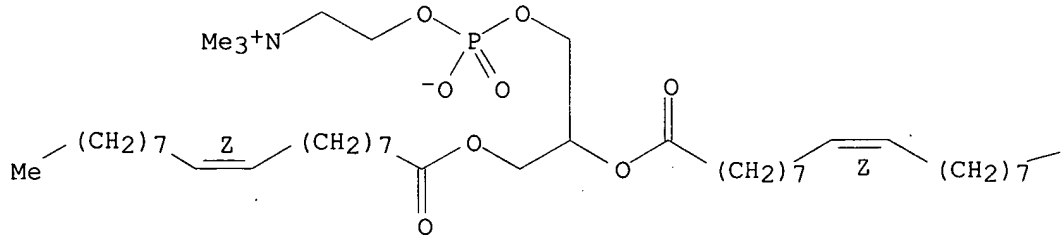
RN 67896-63-3 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatetracosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxopentadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 68737-67-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (18Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

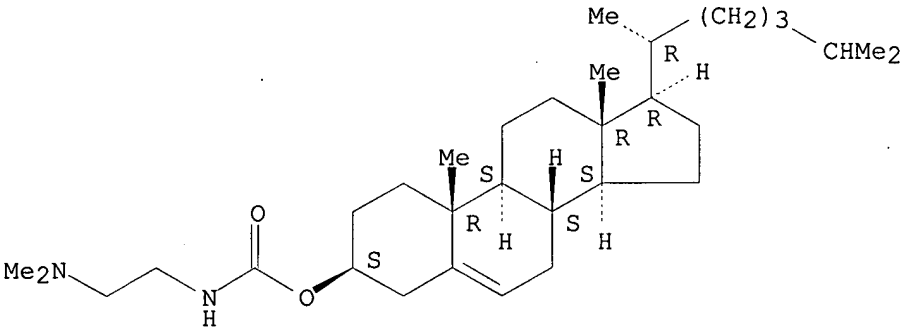
PAGE 1-A



Me

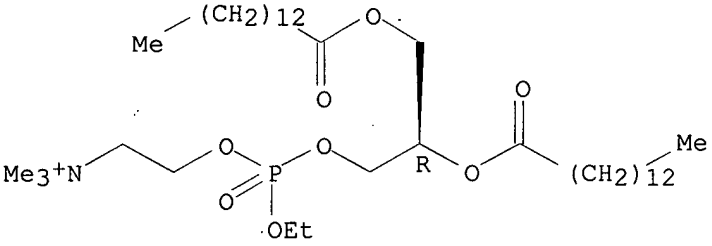
RN 137056-72-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, [2-(dimethylamino)ethyl]carbamate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 183283-19-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-ethoxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

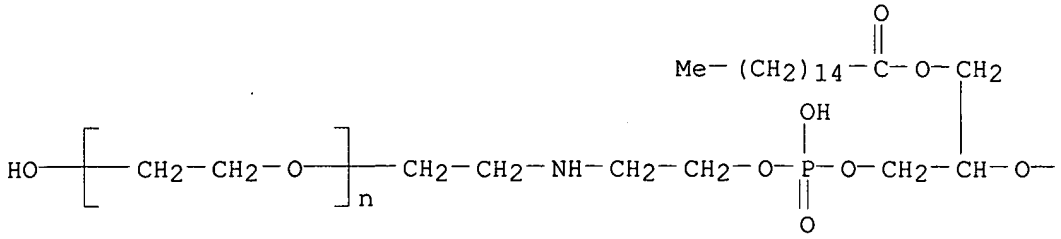


RN 225940-43-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide, mixt. with .alpha.-[7-hydroxy-7-oxido-13-oxo-10-[(1-oxo-9-hexadecyl)oxy]-6,8,12-trioxa-3-aza-7-phosphaoctacos-1-yl]-.omega.-hydroxypoly(oxy-1,2-ethanediyl) and 1-[(phosphonooxy)methyl]-1,2-ethanediyl dihexadecanoate (9CI) (CA INDEX NAME)

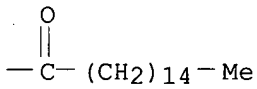
CM 1

CRN 145035-97-8
CMF (C2 H4 O)n C39 H78 N O9 P
CCI PMS

PAGE 1-A

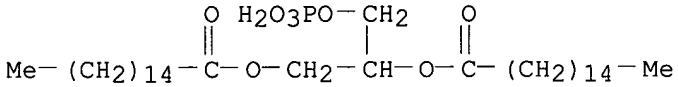


PAGE 1-B



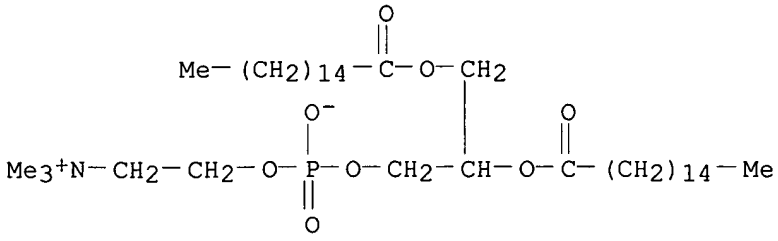
CM 2

CRN 19698-29-4
CMF C35 H69 O8 P



CM 3

CRN 2644-64-6
CMF C40 H80 N O8 P



IT **9002-98-6 25104-18-1**, Poly L-lysine **38000-06-5**
, Poly L-lysine
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(carriers; method of increasing nucleic acid synthesis with ultrasound)
RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

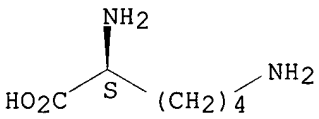
CRN 151-56-4
CMF C2 H5 N

RN 25104-18-1 HCAPLUS
CN L-Lysine, homopolymer (9CI) (CA INDEX NAME)

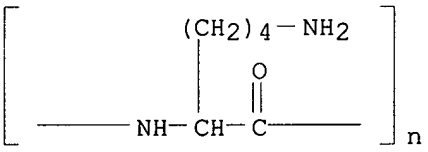
CM 1

CRN 56-87-1
CMF C6 H14 N2 O2
CDES 5:L

Absolute stereochemistry.



RN 38000-06-5 HCAPLUS
CN Poly[imino[(1S)-1-(4-aminobutyl)-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



IC ICM A61K048-00
ICS A61H001-00
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 1, 6, 9, 11, 13, 14
ST gene expression increase ultrasound nucleic acid synthesis
IT Proteins, specific or class
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(B2; method of increasing nucleic acid synthesis with ultrasound)
IT Enzymes, biological studies
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(E2 (ubiquitin-carrier); method of increasing nucleic acid synthesis with ultrasound)
IT Transcription factors
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic

use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(Egr-1; method of increasing nucleic acid synthesis with ultrasound)

IT Heat-shock proteins
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(HSP 27; method of increasing nucleic acid synthesis with ultrasound)

IT Heat-shock proteins
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(HSP 60; method of increasing nucleic acid synthesis with ultrasound)

IT Heat-shock proteins
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(HSP 90.alpha.; method of increasing nucleic acid synthesis with ultrasound)

IT Initiation factors (protein formation)
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(IF-3; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(RPA; method of increasing nucleic acid synthesis with ultrasound)

IT PCR (polymerase chain reaction)
(RT-PCR (reverse transcription-PCR); method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(Rad23; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(Raf; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(TP53; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(XPA (xeroderma pigmentosa A)-correcting; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(XPA; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(XPB nucleotide excision repair; method of increasing nucleic acid

synthesis with ultrasound)
IT Gene, animal
RL: BPR (Biological process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(XPG nucleotide excision repair; method of increasing nucleic acid synthesis with ultrasound)
IT Polyoxyalkylenes, biological studies
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(alcs., carrier; method of increasing nucleic acid synthesis with ultrasound)
IT Carbohydrates, biological studies
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(aldoses, carrier, polymers contg.; method of increasing nucleic acid synthesis with ultrasound)
IT Transcription factors
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(c-fos; method of increasing nucleic acid synthesis with ultrasound)
IT Transcription factors
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(c-jun; method of increasing nucleic acid synthesis with ultrasound)
IT Transcription factors
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(c-myc; method of increasing nucleic acid synthesis with ultrasound)
IT Liposomes
Surfactants
(carrier; method of increasing nucleic acid synthesis with ultrasound)
IT Cardiolipins
Fatty acids, biological studies
Glycolipids
Glycosphingolipids
Phosphatidic acids
Phosphatidylcholines, biological studies
Phosphatidylethanolamines, biological studies
Phosphatidylglycerols
Phosphatidylinositols
Phosphatidylserines
Phospholipids, biological studies
Plasmalogens
Sphingolipids
Sphingomyelins
Sulfatides
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(carrier; method of increasing nucleic acid synthesis with ultrasound)
IT Lipids, biological studies
Metals, biological studies
Polymers, biological studies
Proteins, general, biological studies
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(carriers; method of increasing nucleic acid synthesis with ultrasound)
IT Lipids, biological studies

RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(cationic, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(cationic, carriers; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, microbial
RL: BPR (Biological process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(cox3; method of increasing nucleic acid synthesis with ultrasound)

IT Polyoxyalkylenes, biological studies
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(deriv., carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Polyoxyalkylenes, biological studies
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(derivs., carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Phosphates, biological studies
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**diacetyl**, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Diglycerides
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(digalactosyl, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT DNA repair
(excision; method of increasing nucleic acid synthesis with ultrasound)

IT Gene
(expression; method of increasing nucleic acid synthesis with ultrasound)

IT Lipids, biological studies
Phospholipids, biological studies
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(fluorinated, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Surfactants
(fluorosurfactants, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(for interleukin 2; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(for nerve growth factor; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BUU (Biological use, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study);

FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(for phenylalanine hydroxylase; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(for proinsulin; method of increasing nucleic acid synthesis with ultrasound)

IT Perfluorocarbons
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(gaseous or liq.; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(gene Cox3; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(gene ERCC1; method of increasing nucleic acid synthesis with ultrasound)

IT G proteins (guanine nucleotide-binding proteins)
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(gene RAS; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(gene TCP-1-B; method of increasing nucleic acid synthesis with ultrasound)

IT Lipoproteins
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(gene src; method of increasing nucleic acid synthesis with ultrasound)

IT Transcription factors
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(junB; method of increasing nucleic acid synthesis with ultrasound)

IT Carbohydrates, biological studies
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(ketoses, polymers contg., carrier; method of increasing nucleic acid synthesis with ultrasound)

IT T cell (lymphocyte)
(killer cell; method of increasing nucleic acid synthesis with ultrasound)

IT Animal cell
(mammalian; method of increasing nucleic acid synthesis with ultrasound)

IT Liver, neoplasm
(metastasis; method of increasing nucleic acid synthesis with ultrasound)

IT Acoustic devices
Alzheimer's disease
Animal cell
Antitumor agents
DNA formation
DNA sequences
Diabetes mellitus
Gene therapy
Liver
Muscle
Neoplasm
Nucleic acid amplification (method)
Phenylketonuria
Plant cell
Plasmids
Protein sequences
RNA sequences
Sound and Ultrasound
Transcription, genetic
Transformation, genetic
Translation, genetic
(method of increasing nucleic acid synthesis with ultrasound)

IT cDNA
RL: ANT (Analyte); BPR (Biological process); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(method of increasing nucleic acid synthesis with ultrasound)

IT Probes (nucleic acid)
RL: ARU (Analytical role, unclassified); BPR (Biological process); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT mRNA
RL: BPR (Biological process); BUU (Biological use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Interleukin 2
p53 (protein)
RL: BPR (Biological process); BUU (Biological use, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Antisense oligonucleotides
Perfluoro compounds
Primers (nucleic acid)
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Calsequestrin
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT DNA
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Heat-shock proteins
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC

(Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Nucleic acids
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, general, biological studies
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT RNA
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Ras proteins
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Liquids
(oils, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(oncogene; method of increasing nucleic acid synthesis with ultrasound)

IT Halides
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(org., gaseous or liq.; method of increasing nucleic acid synthesis with ultrasound)

IT Fluorides, biological studies
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(org.; method of increasing nucleic acid synthesis with ultrasound)

IT Perfluoro compounds
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(perfluoroalkyl ethers; method of increasing nucleic acid synthesis with ultrasound)

IT Ethers, biological studies
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(perfluoroalkyl; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(pericentrin; method of increasing nucleic acid synthesis with ultrasound)

IT Acids, biological studies
Amines, biological studies
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(polymers contg., carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(repair; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(stress-induced; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(structural; method of increasing nucleic acid synthesis with ultrasound)

IT Carbohydrates, biological studies
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(sulfonated, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT 9000-83-3, ATPase
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(calcium-activated; method of increasing nucleic acid synthesis with ultrasound)

IT 50-69-1D, Ribose, polymers contg. 50-99-7D, Glucose, polymers contg. 57-09-0, CTAB **57-10-3**, Palmitic acid, biological studies **57-11-4**, Octadecanoic acid, biological studies 57-48-7D, Fructose, polymers contg. **57-88-5**, Cholesterol, biological studies **57-88-5D**, Cholesterol, derivs. **57-88-5D**, Cholesterol, ester and salt 58-73-1, DPH 58-86-6D, Xylose, polymers contg. 59-23-4D, Galactose, polymers contg. 65-42-9D, Lyxose, polymers contg. 87-79-6D, Sorbose, polymers contg. 112-80-1, 9-Octadecenoic acid (9Z)-, biological studies 114-04-5D, Neuraminic acid, polymers contg. 124-30-1, Stearylamine 147-81-9D, Arabinose, polymers contg. 506-32-1, Arachidonic acid 526-95-4D, Gluconic acid, polymers contg. 685-73-4D, Galacturonic acid, polymers contg. 926-63-6 1122-58-3, DMAP 1256-86-6, Cholesterol sulfate 1398-61-4, Chitin 1398-61-4D, Chitin, deriv. 1510-21-0, Cholesterol hemisuccinate 1758-51-6D, Erythrose, polymers contg. 2152-76-3D, Idose, polymers contg. 2390-68-3, DDAB 2462-63-7, DOPE **2644-64-6**, Dipalmitoylphosphatidylcholine 3416-24-8D, Glucosamine, polymers contg. 3458-28-4D, Mannose, polymers contg. 3700-67-2, Dimethyldioctadecylammonium bromide **4235-95-4**, DOPC 4345-03-3 4458-31-5 **4539-70-2**, Distearoylphosphatidylcholine 5556-48-9D, Ribulose, polymers contg. 5962-29-8D, Xylulose, polymers contg. 5987-68-8D, Altrose, polymers contg. 6038-51-3D, Allose, polymers contg. 6556-12-3D, Glucuronic acid, polymers contg. 6561-76-8, DCPE 6814-36-4D, Mannuronic acid, polymers contg. 7439-95-4, Magnesium, biological studies 7440-66-6, Zinc, biological studies 7440-70-2, Calcium, biological studies 7535-00-4D, Galactosamine, polymers contg. 9000-07-1, Carrageenan 9000-69-5, Pectin 9002-88-4D, Polyethylene, derivs. 9002-89-5D, Polyvinyl alcohol, derivs. 9003-07-0D, Polypropylene, derivs. 9003-39-8, Polyvinylpyrrolidone 9003-39-8D, Polyvinylpyrrolidone, deriv. 9004-32-4 9004-34-6, Cellulose, biological studies 9004-54-0, Dextran, biological studies 9004-61-9, Hyaluronic acid 9004-61-9D, Hyaluronic

acid, deriv. 9004-65-3, Hydroxypropyl methylcellulose 9005-32-7, Alginic acid 9005-79-2, Glycogen, biological studies 9005-82-7, Amylose 9007-27-6, Chondroitin 9012-36-6, Agarose 9012-72-0D, Glucan, derivs. 9013-95-0, Levan 9014-63-5D, Xylan, derivs. 9036-88-8D, Mannan, derivs. 9037-22-3, Amylopectin 9037-55-2D, Galactan, derivs. 9037-90-5D, Fructan, derivs. 9046-38-2D, Galacturonan, derivs. 9046-40-6, Pectic acid 9057-02-7, Pullulan 9060-75-7D, Arabinan, derivs. 9072-19-9, Fucoidan 15769-56-9D, Guluronic acid, polymers contg. 17598-81-1D, Tagatose, polymers contg. **18656-38-7**, Dimyristoylphosphatidylcholine **18656-40-1**, Dilauroylphosphatidylcholine 19163-87-2D, Gulose, polymers contg. 19600-01-2, Ganglioside GM2 19698-29-4, Dipalmitoylphosphatidic acid 20064-29-3 20255-95-2, DMPE 23140-52-5D, Psicose, polymers contg. 24305-42-8 24529-88-2 **25322-68-3D**, Polyethylene glycol, alcs. **25322-68-3D**, Polyethylene glycol, deriv. **25322-68-3D**, derivs. 25525-21-7D, Glucaric acid, polymers contg. 29884-64-8D, Threose, polymers contg. 30077-17-9D, Talose, polymers contg. 37331-28-5, Pustulan 37758-47-7, Ganglioside GM1 40031-31-0D, Erythrulose, polymers contg. 60495-58-1, Galactocarolose 64612-25-5D, Fucan, derivs. **67896-63-3**, Dipentadecanoylphosphatidylcholine 68354-92-7 68354-99-4 **68737-67-7**, Dioleoylphosphatidylcholine 69992-87-6, Keratan 73294-85-6 75634-40-1, Dermatan 76822-97-4 78543-25-6 83554-62-5 106392-12-5, Pluronic 106392-12-5D, Pluronic, acid and alc. derivs. 108032-13-9 115534-33-3, TMADPH 124050-77-7, Transfectam 124076-29-5 127512-30-5 128835-92-7, Lipofectin **137056-72-5**, DC-Chol 144189-73-1, DOTAP 145035-97-8, Dipalmitoylphosphatidylethanolamine-**PEG** 145310-87-8, Transfectace 153312-64-2, DMRIE 158571-62-1, Lipofectamine 161293-59-0 161441-83-4 165467-64-1, DOHME 168479-03-6, DOSPA 182919-20-6 **183283-19-4**, EDMPC 186198-32-3 199171-54-5, DLRIE 201491-17-0, Cytofectin 214206-92-5 214206-94-7 225940-35-2 225940-36-3 225940-37-4 225940-38-5 225940-42-1 **225940-43-2**
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(carrier; method of increasing nucleic acid synthesis with ultrasound)

IT **9002-98-6 25104-18-1**, Poly L-lysine 26913-06-4, Poly[imino(1,2-ethanediyl)] **38000-06-5**, Poly L-lysine
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(carriers; method of increasing nucleic acid synthesis with ultrasound)

IT 132172-61-3
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(cationic, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT 9029-73-6, Phenylalanine hydroxylase
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT 57-00-1 9001-05-2, Catalase 9028-04-0 9059-22-7, Heme oxygenase 59088-22-1, 3-Methyladenine DNA glycosylase 106640-78-2, Synthetase, transfer ribonucleate 142805-58-1, MAP kinase kinase
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT 75-71-8, Dichlorodifluoromethane 75-72-9, Chlorotrifluoromethane 75-73-0 76-14-2 76-15-3 76-16-4 76-19-7, Perfluoropropane

115-25-3, Perfluorocyclobutane 116-15-4 127-21-9, 1,3-Dichlorotetrafluoroacetone 306-94-5, Perfluorodecalin 307-34-6, Perfluorooctane 307-45-9, Perfluorodecane 307-59-5, Perfluorododecane 311-89-7, Perfluorotributylamine 335-57-9, Perfluoroheptane 338-64-7 338-65-8, 1,1-Difluoro-2-chloroethane 338-83-0, Perfluorotripropylamine 348-57-2, 1-Bromo-2,4-difluorobenzene 350-51-6, 3-Fluorostyrene 353-59-3, Bromochlorodifluoromethane 353-83-3, 2-Iodo-1,1,1-trifluoroethane 354-58-5, 1,1,1-Trichloro-2,2,2-trifluoroethane 355-25-9, Perfluorobutane 355-42-0, Perfluorohexane 355-68-0, Perfluorocyclohexane 355-79-3, Perfluorotetrahydropyran 356-62-7, Bis(perfluoropropyl) ether 358-21-4, Perfluoro diethyl ether 359-37-5, Iodotrifluoroethylene 360-89-4, Perfluoro-2-butene 372-39-4, 3,5-Difluoroaniline 375-03-1 375-48-4, 1-Bromo-nonafluorobutane 375-96-2, Perfluorononane 377-36-6, 1,1,2,2,3,3,4,4-Octafluorobutane 392-42-7, 2-Chloropentafluoro-1,3-butadiene 400-44-2, 2-Chloro 1,1,1,4,4,4-hexafluoro-2-butene 406-58-6, 1,1,1,3,3-Pentafluorobutane 407-47-6, 2,2,2-Trifluoroethylacrylate 423-55-2, Perfluorooctylbromide 431-07-2, 1,1,2-Trifluoro-2-chloroethane 455-88-9, 2-Fluoro-5-nitrotoluene 456-48-4, 3-Fluorobenzaldehyde 507-63-1, Perfluorooctyliodide 593-98-6 665-16-7, Perfluoro methyl ethyl ether 677-69-0, Heptafluoro-2-iodopropane 678-26-2, Perfluoropentane 685-63-2, Perfluorobuta-1,3-diene 692-50-2, Perfluoro-2-butyne 706-82-1 873-88-1 1479-49-8, Perfluoro dimethyl ether 1584-03-8, Perfluoro-2-methyl-2-pentene 1649-08-7, 1,2-Dichloro-2,2-difluoroethane 1717-00-6 1842-05-3, 1,1-Dichloro-1,2-difluoroethane 1868-53-7, Dibromofluoromethane 2252-78-0, 1-Bromo-1,1,2,3,3,3-hexafluoropropane 2366-52-1, 1-Fluorobutane 2551-62-4, Sulfur hexafluoride 4509-90-4, 5-Bromovaleryl chloride 7783-79-1, Selenium hexafluoride 7789-30-2, Bromine pentafluoride 9061-61-4, Nerve growth factor 13782-76-8, Perfluorobutylethyl ether 19493-30-2 22052-84-2 22052-86-4 22137-14-0 30283-91-1, Bromotrifluoroethane 66670-22-2 83935-39-1 86563-85-1, Perfluoro-4 methylquinolizidine 86714-21-8, Perfluoro-N-cyclohexyl-pyrrolidine 163702-07-6 163702-08-7 170141-63-6, 3-(Trifluoromethoxy)-acetophenone 199171-49-8, 1,2-Dichloro-1,1,3-trifluoropropane 199171-50-1, 1,1,1,3,3-Pentafluoropentane 221248-10-8 225940-34-1
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT 60267-61-0, Ubiquitin
RL: BPR (Biological process); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT 9035-68-1, Proinsulin
RL: BPR (Biological process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT 225921-10-8 225921-11-9 225921-13-1 225921-16-4 225921-17-5 225921-18-6 225921-19-7 225921-20-0 225921-21-1 225921-22-2 225921-23-3 225921-24-4 225921-26-6 225921-27-7 225921-28-8 225921-29-9 225921-30-2 225921-34-6 225921-36-8 225921-37-9 225921-38-0 225921-39-1 225921-40-4 225921-42-6 225921-44-8 225921-45-9 225921-46-0 225921-47-1 225921-48-2 225921-51-7 225921-54-0 225921-56-2 225921-59-5 225921-62-0 225921-65-3 225921-69-7 225921-72-2 225921-75-5
RL: BPR (Biological process); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(primer; method of increasing nucleic acid synthesis with ultrasound)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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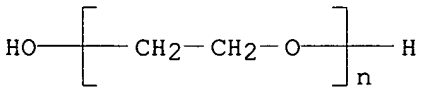
L40 ANSWER 10 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:220013 HCAPLUS
DOCUMENT NUMBER: 130:242337
TITLE: ICAM-1 selective echogenic microbubbles
INVENTOR(S): Villanueva, Flordeliza S.; Wagner, William R.
PATENT ASSIGNEE(S): University of Pittsburgh, USA
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

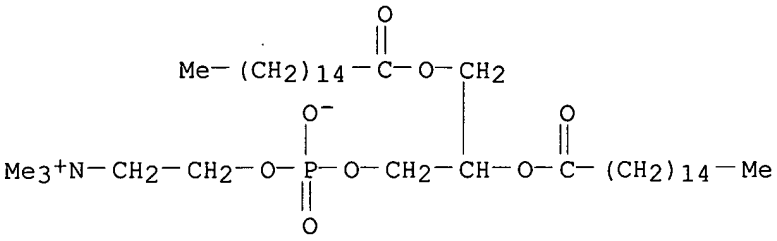
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9913918	A2	19990325	WO 1998-US19597	19980918
WO 9913918	A3	19990603		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9894007	A1	19990405	AU 1998-94007	19980918
PRIORITY APPLN. INFO.:			US 1997-59399	19970918
			WO 1998-US19597	19980918

AB Methods of prepg. gas-filled or gas precursor-filled microbubbles with attached ICAM-binding mols. are described. Gas-filled microbubbles conjugated to anti-ICAM antibodies or other ICAM-binding mols. are useful, for example, in ultrasonic **imaging** of vascular endothelial cell dysfunction, and in therapeutic drug delivery or **gene therapy** directed to dysfunctioning endothelial cells.

IT **25322-68-3**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(linking agent; ICAM-1 selective echogenic microbubbles)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **2644-64-6**
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(microbubble formation from; ICAM-1 selective echogenic microbubbles)
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



IC ICM A61K049-00
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 9
ST echogenic microbubble formulation ICAM1 antibody
IT Immunoglobulins
RL: BPR (Biological process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(G; ICAM-1-binding; ICAM-1 selective echogenic microbubbles)
IT Cell adhesion molecules
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(ICAM-1 (intercellular adhesion mol. 1); antibodies specific for; ICAM-1 selective echogenic microbubbles)
IT Gases
(ICAM-1 selective echogenic microbubbles)
IT Antibodies
RL: BPR (Biological process); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(ICAM-1-specific; ICAM-1 selective echogenic microbubbles)
IT **Imaging** agents
(contrast; echogenic; ICAM-1 selective echogenic microbubbles)
IT Artery
(coronary, endothelium; ICAM-1 selective echogenic microbubbles)
IT Polyoxyalkylenes, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(linking agent; ICAM-1 selective echogenic microbubbles)
IT Albumins, biological studies
Phosphatidylethanolamines, biological studies
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(microbubble formation from; ICAM-1 selective echogenic microbubbles)
IT Bubbles
(microbubbles; ICAM-1 selective echogenic microbubbles)
IT Sound and Ultrasound
(ultrasonog.; ICAM-1 selective echogenic microbubbles)
IT 355-25-9
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(ICAM-1 selective echogenic microbubbles)
IT **25322-68-3**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(linking agent; ICAM-1 selective echogenic microbubbles)
IT 76-19-7 **2644-64-6** 79886-55-8D, reaction products with phosphatidylethanolamine
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(microbubble formation from; ICAM-1 selective echogenic microbubbles)

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L40 ANSWER 11 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:96383 HCAPLUS
DOCUMENT NUMBER: 130:163952
TITLE: Preparation of lipid-nucleic acid particles by solvent extraction and direct hydration and their use in cell transfection and **gene therapy**
INVENTOR(S): Zhang, Yuan-Peng; Scherrer, Peter; Hope, Michael
PATENT ASSIGNEE(S): Inex Pharmaceuticals Corporation, Can.
SOURCE: PCT Int. Appl., 53 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9905303	A1	19990204	WO 1998-CA710	19980723
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9884289	A1	19990216	AU 1998-84289	19980723

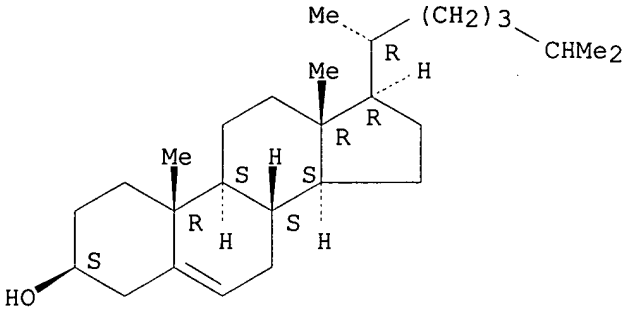
PRIORITY APPLN. INFO.: US 1997-72656 19970724
WO 1998-CA710 19980723

AB This invention relates to a novel Solvent Extn. and Direct Hydration (SEDH) method for prepg. lipid-nucleic acid particles which are useful for the introduction of nucleic acids (e.g., plasmid DNA, antisense mols., ribozymes, etc.) into cells. The SEDH method comprises (1) contacting the nucleic acid with a soln. contg. a non-cationic lipid and a cationic lipid to form a lipid-nucleic acid mixt., said soln. contg. 15-35% water and 65-85% org. solvent; (2) removing the water; (3) removing the org. solvent to form the a lipid-nucleic acid complex; then (4) hydrating the complex to form the lipid-nucleic acid particle. The lipid-nucleic acid particles prepd. using the methods of the present invention have enhanced circulation characteristics and serum stability and, thus, they are extremely effective as nucleic acid delivery vehicles. The sizes of the lipid-nucleic acid particles are in the range of 200-500 nm, but can be reduced to about 50-150 nm by, for example, brief sonication. The SEDH method is simple and time-efficient. The disclosed method provides high encapsulation efficiency (60-100%) with relatively low lipid:nucleic acid ratios.

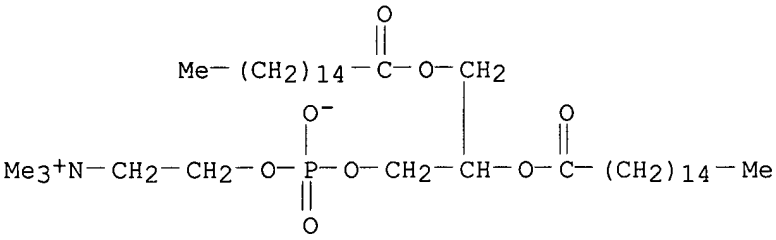
IT **57-88-5**, Cholest-5-en-3-ol (3.beta.)-, biological studies **2644-64-6**, Dipalmitoylphosphatidylcholine **4537-76-2**, Distearoylphosphatidylethanolamine **6542-05-8**, Dilinoleoylphosphatidylcholine **25322-68-3D**, **PEG**, conjugates with lipids **68737-67-7**, Dioleoylphosphatidylcholine **137056-72-5**
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of lipid-nucleic acid particles by solvent extn. and direct hydration and their use in cell transfection and **gene therapy**)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

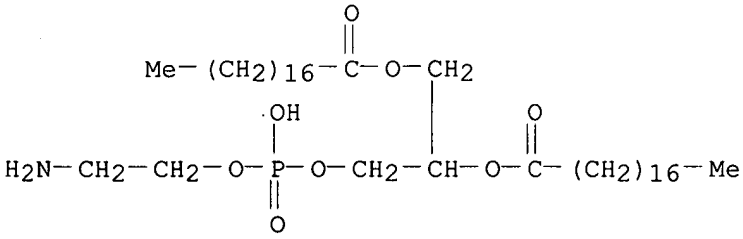
Absolute stereochemistry.



RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



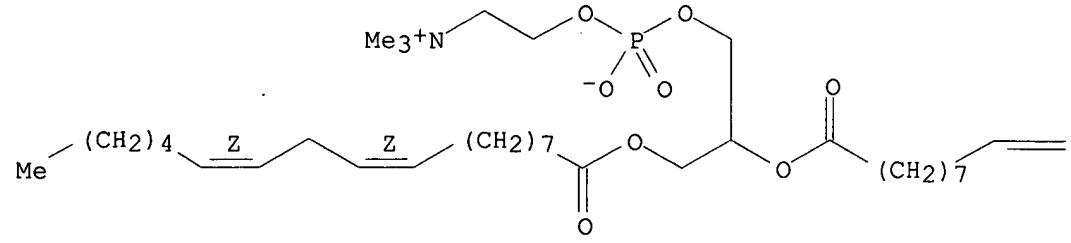
RN 4537-76-2 HCAPLUS
CN Octadecanoic acid, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



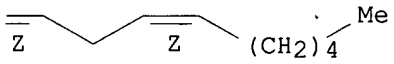
RN 6542-05-8 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosa-18,21-dien-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z,12Z)-1-oxo-9,12-octadecadienyl]oxy]-, inner salt, 4-oxide, (18Z,21Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

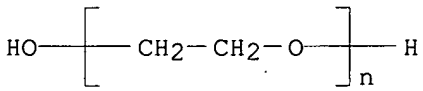
PAGE 1-A



PAGE 1-B



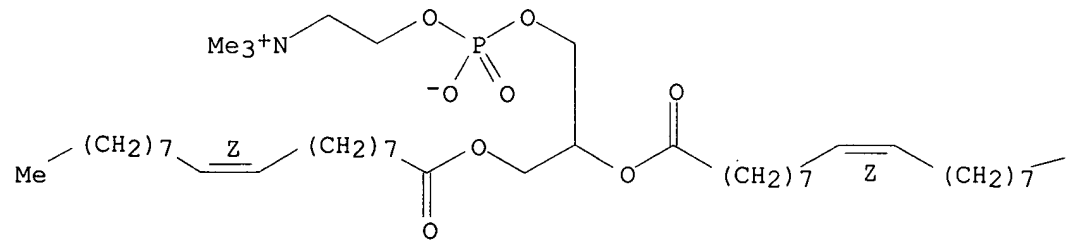
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 68737-67-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (18Z)-(9CI) (CA INDEX NAME)

Double bond geometry as shown.

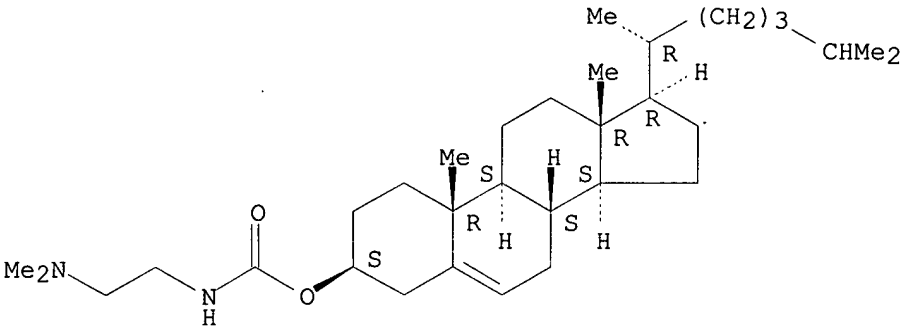
PAGE 1-A



Me

RN 137056-72-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, [2-(dimethylamino)ethyl]carbamate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IC ICM C12N015-88
ICS A61K009-127
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 1
ST lipid nucleic acid particle solvent extn direct hydration; transfection **gene therapy** lipid nucleic acid particle
IT Nucleic acids
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antisense; prepn. of lipid-nucleic acid particles by solvent extn. and direct hydration and their use in cell transfection and **gene therapy**)
IT Lipids, biological studies
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cationic and noncationic; prepn. of lipid-nucleic acid particles by solvent extn. and direct hydration and their use in cell transfection and **gene therapy**)
IT Glycerophospholipids
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cephalins; prepn. of lipid-nucleic acid particles by solvent extn. and direct hydration and their use in cell transfection and **gene therapy**)
IT Ceramides
Phosphatidylethanolamines, biological studies
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugates with **PEG**; prepn. of lipid-nucleic acid particles by solvent extn. and direct hydration and their use in cell transfection and **gene therapy**)

IT Polyoxyalkylenes, biological studies
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugates with lipids; prepn. of lipid-nucleic acid particles by solvent extn. and direct hydration and their use in cell transfection and **gene therapy**)

IT Anti-infective agents
Anti-inflammatory drugs
Antitumor agents
Gene therapy
Plasmid vectors
Transformation (genetic)
(prepn. of lipid-nucleic acid particles by solvent extn. and direct hydration and their use in cell transfection and **gene therapy**)

IT Ceramides
Cerebrosides
Phosphatidylcholines, biological studies
Phosphatidylethanolamines, biological studies
Sphingomyelins
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of lipid-nucleic acid particles by solvent extn. and direct hydration and their use in cell transfection and **gene therapy**)

IT Ribozymes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of lipid-nucleic acid particles by solvent extn. and direct hydration and their use in cell transfection and **gene therapy**)

IT **57-88-5**, Cholest-5-en-3-ol (3.beta.)-, biological studies
2390-68-3, DDAB 2462-63-7, Dioleoylphosphatidylethanolamine **2644-64-6**, Dipalmitoylphosphatidylcholine **4537-76-2**, Distearoylphosphatidylethanolamine 5681-36-7, Dipalmitoylphosphatidylethanolamine **6542-05-8**, Dilinoleoylphosphatidylcholine 7212-69-3, DODAC 20255-95-2, Dimyristoylphosphatidylethanolamine **25322-68-3D, PEG**, conjugates with lipids **68737-67-7**, Dioleoylphosphatidylcholine 95012-78-5 104162-48-3, DOTMA 124050-77-7, DOGS **137056-72-5** 144189-73-1, DOTAP 153312-64-2, DMRIE 168479-03-6, DOSPA
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of lipid-nucleic acid particles by solvent extn. and direct hydration and their use in cell transfection and **gene therapy**)

IT 60-29-7, Diethyl ether, uses 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-66-3, Chloroform, uses 75-09-2, Methylene chloride, uses
RL: NUU (Other use, unclassified); USES (Uses)
(prepn. of lipid-nucleic acid particles by solvent extn. and direct hydration and their use in cell transfection and **gene therapy**)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr ind 12

L40 ANSWER 12 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:766505 HCAPLUS
DOCUMENT NUMBER: 130:29197
TITLE: High efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles
INVENTOR(S): Semple, Sean C.; Klimuk, Sandra K.; Harasym, Troy; Hope, Michael J.; Ansell, Steven M.; Cullis, Pieter; Scherrer, Peter; Debeyer, Dan
PATENT ASSIGNEE(S): Inex Pharmaceuticals Corporation, Can.
SOURCE: PCT Int. Appl., 98 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9851278	A2	19981119	WO 1998-CA485	19980514
WO 9851278	A3	20000615		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9874221	A1	19981208	AU 1998-74221	19980514
AU 733310	B2	20010510		
EP 1027033	A2	20000816	EP 1998-921310	19980514
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002501511	T2	20020115	JP 1998-548646	19980514

PRIORITY APPLN. INFO.: US 1997-856374 A 19970514
WO 1998-CA485 W 19980514

AB Methods for the prepn. of a lipid-nucleic acid compn. are provided. According to the methods, a mixt. of lipids contg. a protonatable or deprotonatable lipid, for example an amino lipid and a lipid such as a **PEG**- or polyamide oligomer-modified lipid is combined with a buffered aq. soln. of a charged therapeutic agent, for example polyanionic nucleic acids, to produce particles in which the therapeutic agent is encapsulated in a lipid vesicle. Surface charges on the lipid particles are at least partially neutralized to provide surface-neutralized lipid-encapsulated compns. of the therapeutic agents. The method permits the prepn. of compns. with high ratios of therapeutic agent to lipid and with encapsulation efficiencies in excess of 50 %.

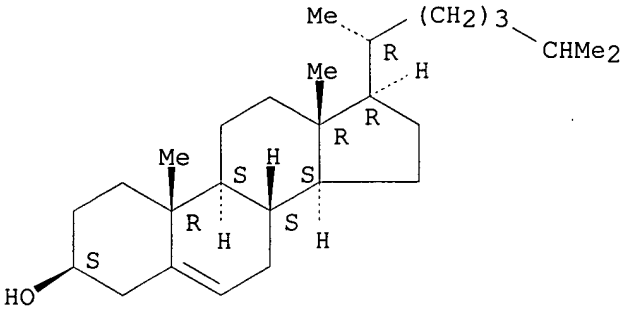
IT **127464-60-2**, Vascular endothelial growth factor
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene encoding; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)
RN 127464-60-2 HCAPLUS
CN Vascular endothelial growth factor (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **57-88-5**, Cholesterol, biological studies **816-94-4**, DSPC
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical

process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

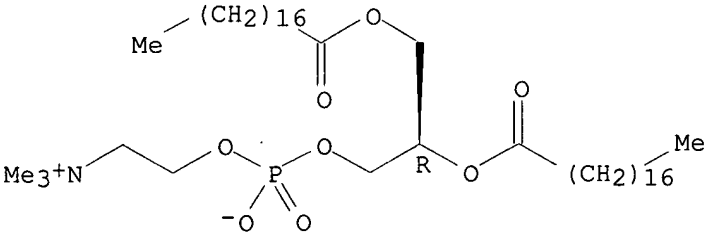
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



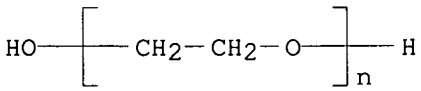
RN 816-94-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **25322-68-3D**, Polyethylene glycol, lipid derivs.
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IC ICM A61K009-00
CC 63-5 (Pharmaceuticals)
ST liposome oligonucleotide encapsulation drug delivery
IT Vascular endothelial growth factor receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)

(1, gene encoding; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Ceramides
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**PEG** derivs.; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Lipids, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(amino derivs.; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Oligonucleotides
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(boranophosphate; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Phosphates, uses
RL: NUU (Other use, unclassified); USES (Uses)
(buffer; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Epidermal growth factor receptors
ICAM-1 (cell adhesion molecule)
Insulin-like growth factor I receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene encoding; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Anti-inflammatory drugs
Antitumor agents
Buffers
Gene therapy
Infection
Inflammation
Intravenous injections
Liposomes (drug delivery systems)
Microencapsulation
Nanoparticles (drug delivery systems)
Tumors (animal)
(high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT c-erbB2 gene (animal)
c-myb gene (animal)
c-myc gene (animal)
ras gene (animal)
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Sphingomyelins
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Antisense oligonucleotides
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Phosphorothioate oligonucleotides
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU

(Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Ribozymes
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Polyamides, biological studies
Polyoxyalkylenes, biological studies
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(lipid derivs.; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Oligonucleotides
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(phosphoramidate; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Oligonucleotides
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(phosphorodithioate; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Oligonucleotides
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(phosphoroselenate; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Nucleic acids
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(polyanionic; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Genes (animal)
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(raf; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT Dialysis
(tangential flow; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT **127464-60-2**, Vascular endothelial growth factor
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene encoding; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT **57-88-5**, Cholesterol, biological studies **816-94-4**, DSPC 74936-61-1, POPC 127512-29-2, DODAP
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT 64-17-5, Ethanol, uses 8012-39-3, Citrate buffer
RL: NUU (Other use, unclassified); USES (Uses)
(high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT **25322-68-3D**, Polyethylene glycol, lipid derivs. 115427-51-5 142442-63-5 155362-55-3 158914-43-3
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)

(high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

IT 141436-78-4
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(.alpha., gene encoding; high-efficiency encapsulation of **charged** therapeutic agents in **lipid** vesicles)

=> d ibib abs hitstr ind 13

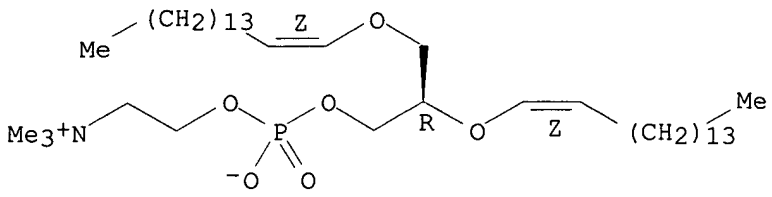
L40 ANSWER 13 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:682980 HCAPLUS
DOCUMENT NUMBER: 130:71405
TITLE: Diplasmenylcholine-Folate Liposomes: An Efficient Vehicle for Intracellular Drug Delivery
AUTHOR(S): Rui, Yuanjin; Wang, Susan; Low, Philip S.; Thompson, David H.
CORPORATE SOURCE: Department of Chemistry, Purdue University, West Lafayette, IN, 47907-1393, USA
SOURCE: J. Am. Chem. Soc. (1998), 120(44), 11213-11218
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Most pharmaceutical and **gene therapy** applications of targeted liposomes presently suffer from inefficient contents delivery to the cytoplasm of target cells. We report a plasma-stable liposome, composed of synthetic, naturally occurring diplasmenylcholine (1,2-di-O-(Z-1'-hexadecenyl)-sn-glycero-3-phosphocholine; DPPlsC), that rapidly and efficiently releases its contents at endosomal pHs. Acid-catalyzed hydrolysis of these liposomes produces glycerophosphocholine and fatty aldehydes, leading to greatly enhanced liposome permeability (t50% release equiv. 1-4 h between pH 4.5-5.5) when >20% of the vinyl ether lipid has been hydrolyzed. Plasma stability of nonhydrolyzed 9:1 DPPlsC/dihydrocholesterol liposomes exceeds 48 h at 37 .degree.C, pH 7.4 in 50% serum; pure DPPlsC liposomes remain stable in 10% serum under the same conditions. Fluorescence assays of KB cells treated with 99.5:0.5 DPPlsC/DSPE-PEG3350-folate liposomes contg. encapsulated propidium iodide (PI) indicate that 83% of the PI escapes the endosomal compartment within 8 h to produce intensely stained nucleii. The IC50 value of 1-.beta.-arabinofuranosylcytosine (Ara-C) encapsulated in DPPlsC/DSPE-PEG3350-folate liposomes is 0.49 .mu.M in KB cell cultures, a .apprx.6000-fold enhancement in cytotoxicity compared with free drug (2.8 mM). Empty DPPlsC/DSPE-PEG3350-folate liposomes had no effect on DNA synthesis, indicating that DPPlsC and its degrdn. products are benign to cell function at these lipid concns. Our results suggest that concurrent application of selective targeting and membrane translocation mechanisms in drug carriers can significantly increase their efficacy.

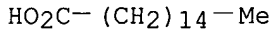
IT **189124-60-5**, Diplasmenylcholine
RL: BPR (Biological process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(diplasmenylcholine-folate liposomes as efficient vehicle for intracellular drug delivery)

RN 189124-60-5 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacos-10-en-1-aminium, 7-[(1Z)-1-hexadecenyloxy]-4-hydroxy-N,N,N-trimethyl-, inner salt, 4-oxide, (7R,10Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **57-10-3**, Hexadecanoic acid, formation (nonpreparative)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(from diplasmenylcholine hydrolysis; diplasmenylcholine-folate liposomes as efficient vehicle for intracellular drug delivery)
RN 57-10-3 HCAPLUS
CN Hexadecanoic acid (9CI) (CA INDEX NAME)



CC 63-5 (Pharmaceuticals)
ST diplasmenylcholine folate liposome intracellular drug delivery
IT Dissolution rate
Gene therapy
Hydrolysis (biological)
Liposomes (drug delivery systems)
(diplasmenylcholine-folate liposomes as efficient vehicle for intracellular drug delivery)
IT 80-97-7, 5.alpha.-Cholestan-3.beta.-ol
RL: BPR (Biological process); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(diplasmenylcholine-folate liposomes as efficient vehicle for intracellular drug delivery)
IT **189124-60-5**, Diplasmenylcholine
RL: BPR (Biological process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(diplasmenylcholine-folate liposomes as efficient vehicle for intracellular drug delivery)
IT 59-30-3D, Folic acid, conjugates with distearoylphosphatidylethanolamine-**PEG** 147-94-4, AraC 216753-63-8D, conjugates with folate
RL: BPR (Biological process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(diplasmenylcholine-folate liposomes as efficient vehicle for intracellular drug delivery)
IT **57-10-3**, Hexadecanoic acid, formation (nonpreparative) 563-24-6, Glycerophosphocholine 629-80-1, Hexadecanal
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(from diplasmenylcholine hydrolysis; diplasmenylcholine-folate liposomes as efficient vehicle for intracellular drug delivery)
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr ind 14

L40 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:682551 HCAPLUS
DOCUMENT NUMBER: 129:299010
TITLE: Composition containing quaternary ammonium salts for introducing genes into cells
INVENTOR(S): Tanaka, Kenichi; Kikuchi, Hiroshi; Suzuki, Norio
PATENT ASSIGNEE(S): Daiichi Pharmaceutical Co., Ltd., Japan
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9845463	A1	19981015	WO 1998-JP685	19980219
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9862294	A1	19981030	AU 1998-62294	19980219

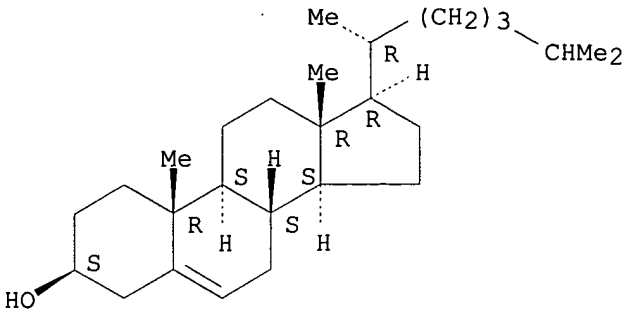
PRIORITY APPLN. INFO.:		
	JP 1997-88546	19970407
	JP 1997-88547	19970407
	WO 1998-JP685	19980219

OTHER SOURCE(S): MARPAT 129:299010

AB A compn. to improve the cell membrane permeability during genetic transformation is provided, which compn. consists of a quaternary ammonium salt ACOCnH2nN+(CH3)3X1 (A=R1CO2H4(R2CO2C2H4)N- or R3CO2CH2(R4CO2CH2)(R5CO2CH2)CNH-; where R2,R3,R4,R5=C9-17 aliph.; X1=halo; n=1.apprx.10 integer). The transformation efficiency may be further enhanced by including **phospholipids** and/or cholesterol into the compn. The compn. is suitable for **gene therapy** by introducing genes into cells in vitro or in vivo. The efficiency of introducing the luciferase-encoding gene (reporter) into a variety of tumor cell lines with liposomes prepd. from a mixt. of O,O'-N-ditetradecanoyl-N-(.alpha.-trimethylammonioacetyl)-diethanolamine chloride, dioleoyl phosphatidyl ethanolamine, cholesterol (4:3:3) or other compn. was demonstrated.

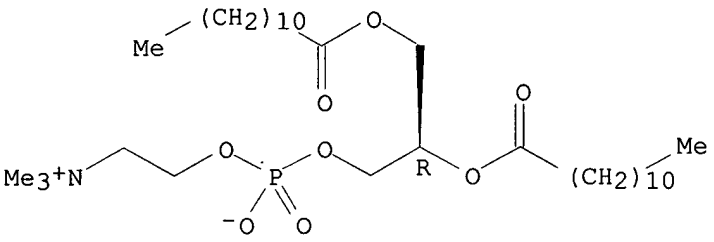
IT **57-88-5P**, Cholesterol, biological studies **18194-25-7P**, Dilauroyl phosphatidylcholine
RL: BPR (Biological process); BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(liposome compn.; compn. contg. quaternary ammonium salts for introducing genes into cells)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 18194-25-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheneicosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxododecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IC ICM C12N015-88
ICS A61K009-127; A61K047-18; A61K048-00
CC 3-1 (Biochemical Genetics)
ST quaternary ammonium **phospholipid** cholesterol gene transformation; liposome gene transformation
IT **Gene therapy**
Liposomes (drug delivery systems)
Transformation (genetic)
(compn. contg. quaternary ammonium salts for introducing genes into cells)
IT Cardiolipins
Phosphatidic acids
Phosphatidylcholines, biological studies
Phosphatidylethanolamines, biological studies
Phosphatidylglycerols
Phosphatidylinositols
Phosphatidylserines
Phospholipids, biological studies
Plasmalogens
Quaternary ammonium compounds, biological studies
Sphingomyelins
RL: BPR (Biological process); BUU (Biological use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)
(liposome compn.; compn. contg. quaternary ammonium salts for introducing genes into cells)
IT Lysophosphatidylcholines
RL: BPR (Biological process); BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC

(Process); USES (Uses)
(liposome compn.; compn. contg. quaternary ammonium salts for introducing genes into cells)

IT **57-88-5P**, Cholesterol, biological studies 4004-05-1P, DOPE **18194-25-7P**, Dilauroyl phosphatidylcholine 20559-16-4P 20559-18-6P 100993-84-8P 107086-75-9P 107086-76-0P 214536-57-9P 214536-58-0P
RL: BPR (Biological process); BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(liposome compn.; compn. contg. quaternary ammonium salts for introducing genes into cells)

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L40 ANSWER 15 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:388630 HCAPLUS
DOCUMENT NUMBER: 129:37207
TITLE: Transfecting composition usable in **gene therapy** containing viral vector and transfecting agent such as cationic polymers or lipofectants
INVENTOR(S): Aubailly, Nathalie; Benoit, Patrick; Branellec, Didier; Le Roux, Aude; Mahfoudi, Abderrahim; Ratet, Nathalie
PATENT ASSIGNEE(S): Rhone-Poulenc Rorer S.A., Fr.; Aubailly, Nathalie; Benoit, Patrick; Branellec, Didier; Le Roux, Aude; Mahfoudi, Abderrahim; Ratet, Nathalie
SOURCE: PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9823765	A1	19980604	WO 1997-FR2157	19971128
W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, GH, HU, ID, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
FR 2756491	A1	19980605	FR 1996-14693	19961129
FR 2756491	B1	19990108		
ZA 9701070	A	19970825	ZA 1997-1070	19970210
AU 9874010	A1	19980622	AU 1998-74010	19971128
AU 737846	B2	20010830		
EP 948636	A1	19991013	EP 1997-948959	19971128
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI, FI				
BR 9713434	A	20000201	BR 1997-13434	19971128
JP 2001514485	T2	20010911	JP 1998-524378	19971128
NO 9902577	A	19990728	NO 1999-2577	19990528

PRIORITY APPLN. INFO.:
FR 1996-14693 A 19961129
ZA 1996-1109 A 19960212
WO 1997-FR2157 W 19971128

AB The invention concerns a transfecting compn. usable in **gene therapy** characterized in that it combines one or several non-coated recombinant viruses and comprising in their genome at least an exogenous nucleic acid and at least one non-viral and non-plasmid transfecting agent. Use of lipofectants to improve transfection efficiency and minimize immune reaction to adenoviral vector transfection of vascular smooth muscle cells was demonstrated.

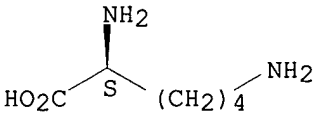
IT **25104-18-1**, Polylysine **38000-06-5**, Polylysine
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(targeting moiety; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

RN 25104-18-1 HCAPLUS
CN L-Lysine, homopolymer (9CI) (CA INDEX NAME)

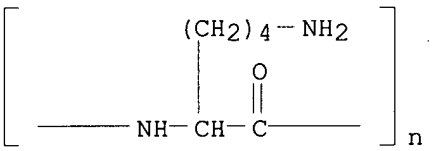
CM 1

CRN 56-87-1
CMF C6 H14 N2 O2
CDES 5:L

Absolute stereochemistry.

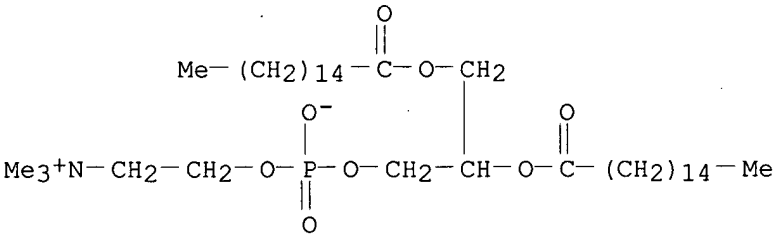


RN 38000-06-5 HCAPLUS
CN Poly[imino[(1S)-1-(4-aminobutyl)-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)

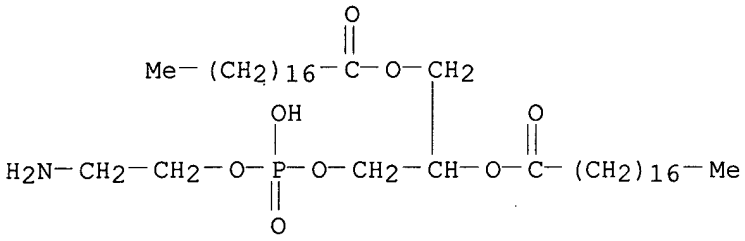


IT **2644-64-6 4537-76-2**, Distearoylphosphatidylethanolamine
4539-70-2 9002-98-6, PEI **18656-38-7**
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

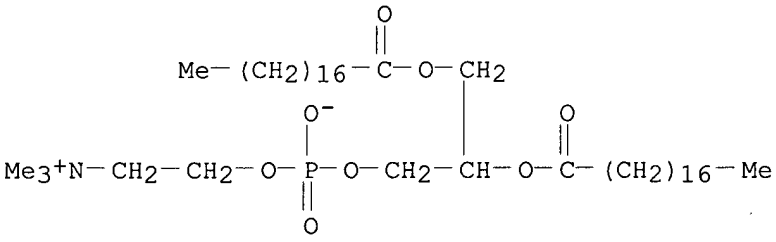
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 4537-76-2 HCAPLUS
CN Octadecanoic acid, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)

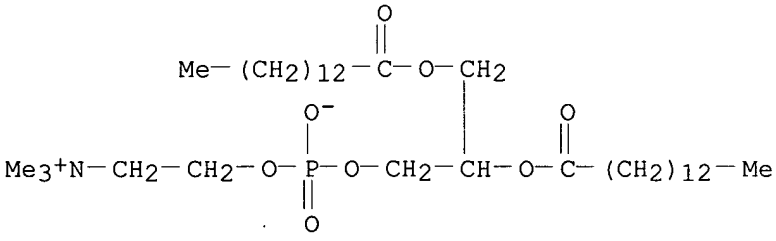


RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RN 18656-38-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



IT **9002-06-6**, Thymidine kinase
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU

(Occurrence)
(viral vector contg. gene for; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)
RN 9002-06-6 HCAPLUS
CN Kinase (phosphorylating), thymidine (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IC ICM C12N015-86
ICS A61K048-00
CC 3-1 (Biochemical Genetics)
ST **gene therapy** transfection viral vector lipofectant; polymer cationic **gene therapy** viral vector
IT Apolipoproteins
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(C-I, viral vector contg. gene for; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)
IT Apolipoproteins
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(D, viral vector contg. gene for; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)
IT Apolipoproteins
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(F, viral vector contg. gene for; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)
IT Apolipoproteins
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(G, viral vector contg. gene for; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)
IT Gangliosides
Glycosphingolipids
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(asialogangliosides; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)
IT Protein receptors
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(chylomicron remnant, viral vector contg. gene for; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)
IT Genes
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(gax, viral vector contg.; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)
IT Heregulins
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(glial growth factor, viral vector contg. gene for; transfecting compn.

usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT Diglycerides
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(glycosyl-; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT Genes (animal)
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(k-rev, viral vector contg.; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT Lipids, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(liposome-forming; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT Proteins (specific proteins and subclasses)
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(**phospholipid**-exchanging, viral vector contg. gene for; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT Genes (animal)
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(rap1A, viral vector contg.; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT Cell (biological)
(recombinant; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT Chylomicrons
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(remnants, receptors, viral vector contg. gene for; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT Antibodies
Lectins
Transferrins
Vitamins
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(targeting moiety; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT Cationic polyelectrolytes
Gene therapy
Virus vectors
(transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT Cerebrosides
Diglycerides

Phosphatidylglycerols
Sphingolipids
Sphingomyelins
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT Adeno-associated virus
Human adenovirus
Human adenovirus 2
Human adenovirus 5
(vectors; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT Apolipoprotein A-I
Apolipoprotein A-II
Apolipoprotein A-IV
Apolipoprotein B
Apolipoprotein C-II
Apolipoprotein C-III
Apolipoprotein E
Apolipoprotein H
Brain-derived neurotrophic factor
CFTR (cystic fibrosis transmembrane conductance regulator)
Cholesteryl ester transfer protein
Ciliary neurotrophic factor
Clusterin
Dystrophin
Enzymes, biological studies
Growth factors (animal)
HDL receptors
Hemoglobins
Hormones (animal), biological studies
Interferons
Interleukins
LDL receptors
Lymphokines
Pleiotrophins
Scavenger receptors
Tumor necrosis factors
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(viral vector contg. gene for; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT DCC gene (animal)
RB gene (animal)
p53 gene (animal)
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(viral vector contg.; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT 99896-85-2
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(targeting moiety, peptides/proteins contg.; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT 59-30-3, Folic acid, biological studies 9004-10-8, Insulin, biological studies **25104-18-1**, Polylysine **38000-06-5**, Polylysine
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(targeting moiety; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT 1487-55-4, N,N-Dimethyl-dipalmitoylphosphatidylethanolamine 2462-63-7, DOPE **2644-64-6 4537-76-2**, Distearoylphosphatidylethanolamine **4539-70-2** 5681-36-7, Dipalmitoylphosphatidylethanolamine **9002-98-6**, PEI 10015-88-0, POPE **18656-38-7** 20255-95-2, Dimyristoylphosphatidylethanolamine 25037-42-7, Polypropylenimine 32290-92-9, Polypropylenimine 54285-58-4, N-Methyl-dipalmitoylphosphatidylethanolamine 55999-63-8 55999-64-9 66170-11-4 85305-88-0 104499-84-5 124050-77-7, DOGS 124076-29-5 127769-97-5 127769-99-7 181821-38-5 181821-41-0 208344-03-0 208344-04-1 208344-05-2
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

IT 9001-25-6, Blood-coagulation factor VII 9001-28-9, Blood-coagulation factor IX 9001-62-1, Lipase **9002-06-6**, Thymidine kinase 9004-02-8, Lipoprotein lipase 9025-05-2, Cytosine deaminase 9025-77-8, Phosphatidic acid phosphatase 9031-14-5, Lecithin cholesterol acyltransferase 9037-53-0, Cholesterol 7.alpha.-hydroxylase 9061-61-4, Nerve Growth Factor 61912-98-9, Insulin-like growth factor 106096-92-8, Acidic fibroblast growth factor 106096-93-9, Basic fibroblast growth factor 113189-02-9, Blood-coagulation factor VIII 130939-66-1, Neurotrophin-3 148499-03-0, Neurotrophin-5
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(viral vector contg. gene for; transfecting compn. usable in **gene therapy** contg. viral vector and transfecting agent such as cationic polymers or lipofectants)

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L40 ANSWER 16 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:1565 HCAPLUS
DOCUMENT NUMBER: 128:66511
TITLE: Increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes
INVENTOR(S): Klimuk, Sandra K.; Semple, Sean C.; Scherrer, Peter; Hope, Michael J.
PATENT ASSIGNEE(S): University of British Columbia, Can.
SOURCE: PCT Int. Appl., 80 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9746671	A1	19971211	WO 1997-CA347	19970522
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 906421	A1	19990407	EP 1997-921565	19970522
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
JP 2000511541	T2	20000905	JP 1998-500030	19970522

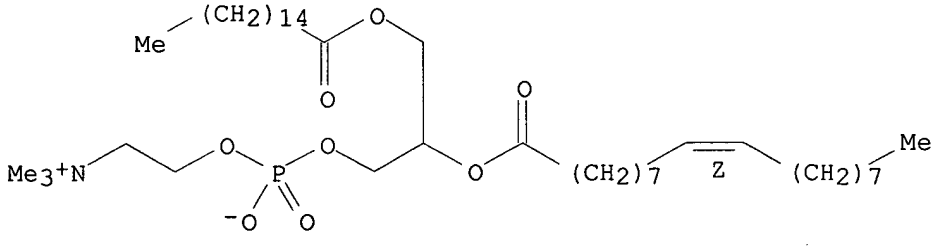
PRIORITY APPLN. INFO.: US 1996-657753 A 19960530
WO 1997-CA347 W 19970522

AB The efficiency of delivery of antisense nucleic acids to damaged tissues is increased by using neutral lipid-based liposomes. Neutral **phospholipid** liposomes do not activate complement and so avoid some of the toxicity problems assocd. with cationic lipids. The lipids used include at least two members selected from the group consisting of **phospholipids**, sterols and cationic lipids. In particular, methods for the delivery of antisense DNA to ICAM-1 to sites of inflammation are described.

IT **26662-91-9**, POPC
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(in neutral liposomes; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

RN 26662-91-9 HCAPLUS
CN 3,5,8-Trioxa-4-phosphahexacos-17-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-9-oxo-7-[[(1-oxohexadecyl)oxy]methyl]-, inner salt, 4-oxide, (17Z)- (9CI) (CA INDEX NAME)

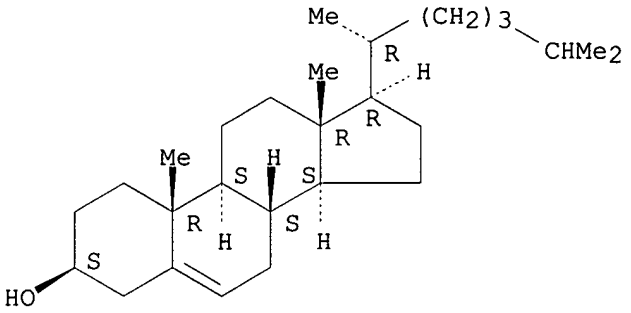
Double bond geometry as shown.



IT **57-88-5**, Cholesterol, biological studies

RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes using; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IC ICM C12N015-11
ICS A61K009-127; A61K031-70; C07H021-00; C12N015-88
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 1, 3
ST liposome **gene therapy** neutral lipid; ICAM antisense DNA neutral lipid liposome; inflammation **gene therapy** ICAM1 antisense DNA
IT Thyroid diseases
(Hashimoto's thyroiditis, **gene therapy** of; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)
IT Hepatitis
(alc., **gene therapy** of; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)
IT Alopecia
(areata, **gene therapy** of; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)
IT Bile duct
Biliary tract diseases
(cholangitis, **gene therapy** of; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)
IT ICAM-1 (cell adhesion molecule)
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(delivery of antisense DNA against; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)
IT Phosphatidylcholines, biological studies
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(egg yolk, liposomes using; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)
IT Heart
Kidney
Liver
(**gene therapy** of allograft rejection; increased efficiency of delivery of antisense nucleic acids using neutral

phospholipid liposomes)

IT Allergic contact dermatitis
(**gene therapy** of mouse model; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

IT Alzheimer's disease
Atherosclerosis
Graft vs. host reaction
Graves' disease
Multiple sclerosis
Psoriasis
Rheumatoid arthritis
Scleroderma
Transplant rejection
Uveitis
Viral hepatitis
(**gene therapy** of; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

IT Eye diseases
(herpetic keratitis, **gene therapy** of; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

IT **Gene therapy**
Liposomes (drug delivery systems)
Transformation (genetic method)
(increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

IT Antisense DNA
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

IT Skin diseases
(lichen planus, **gene therapy** of; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

IT Sterols
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes using; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

IT Oligodeoxyribonucleotides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(methylphosphonate-linked; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

IT Skin tumors
T cell lymphoma
(mycosis fungoides, **gene therapy** of; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

IT Complement
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(neutral lipid liposomes do not activate; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

IT **Phospholipids**, biological studies
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(neutral, liposomes using; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

IT Drug targeting
(of liposomes, passive; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)
IT Oligonucleotides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(thiophosphate-linked; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)
IT 2390-68-3, DDAB 2462-63-7, DOPE 7212-69-3 **26662-91-9**, POPC 104162-48-3, DOTMA 124050-77-7, DOGS 144189-73-1, DOTAP 168479-03-6, DOSPA
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(in neutral liposomes; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)
IT **57-88-5**, Cholesterol, biological studies
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes using; increased efficiency of delivery of antisense nucleic acids using neutral **phospholipid** liposomes)

=> d ibib abs hitstr ind 17

L40 ANSWER 17 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:440187 HCAPLUS
DOCUMENT NUMBER: 127:46039
TITLE: Lipopolyamines as transfection agents and pharmaceutical uses thereof
INVENTOR(S): Byk, Gerardo; Scherman, Daniel; Schwartz, Bertrand; Dubertret, Catherine
PATENT ASSIGNEE(S): Rhone-Poulenc Rorer S.A., Fr.; Byk, Gerardo; Scherman, Daniel; Schwartz, Bertrand; Dubertret, Catherine
SOURCE: PCT Int. Appl., 81 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9718185	A1	19970522	WO 1996-FR1774	19961108
W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
FR 2741066	A1	19970516	FR 1995-13490	19951114
FR 2741066	B1	19971212		
CA 2235721	AA	19970522	CA 1996-2235721	19961108
AU 9675768	A1	19970605	AU 1996-75768	19961108
AU 718568	B2	20000413		
EP 861228	A1	19980902	EP 1996-938291	19961108
EP 861228	B1	20000823		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI, FI				
BR 9611533	A	19990713	BR 1996-11533	19961108
JP 2000501383	T2	20000208	JP 1997-518621	19961108
AT 195721	E	20000915	AT 1996-938291	19961108
ES 2151185	T3	20001216	ES 1996-938291	19961108
ZA 9609489	A	19970602	ZA 1996-9489	19961112
NO 9801944	A	19980429	NO 1998-1944	19980429
US 6171612	B1	20010109	US 1998-68753	19980513

PRIORITY APPLN. INFO.: FR 1995-13490 A 19951114
WO 1996-FR1774 W 19961108

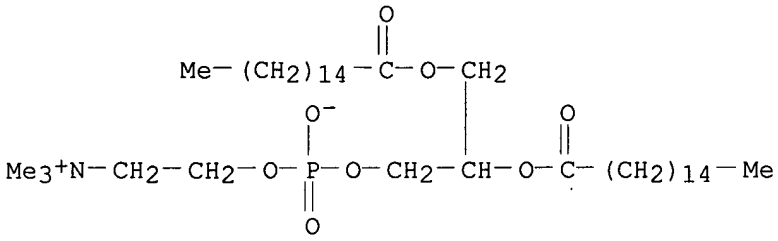
OTHER SOURCE(S): MARPAT 127:46039

AB Lipopolyamines R1R2N[(CH2)mNR3]n(CH2)pCO[X(CHR5)rY]uNR6R7 (I; R1-3=H, (CH2)q-NRR', where q=1-6 and R,R'=H, (CH2)q'NH2 where q'=1-6; m,n,p=0-6; R6,R7=H, (unsatd.) C10-22-alkyl, with the proviso that .gtoreq.2 groupings are not hydrogen; u=0-10; X=O, S, monoalky NH; Y=C:O, CH2; R5=H, (substituted) natural amino acid side chain; u,r=1-10, with the proviso that when r=1, R5=(substituted) natural amino acid side chain and when r>1, R=H) is disclosed. Pharmaceutical compns. contg. I and the use of these compns. for in vitro or in vivo nucleic acid transfection in cells, are also disclosed. Many I were synthesized and tested for efficiency. in transfection of mammalian cells. The effects of ratio of charge of amine to phosphate, of length and structure of spacer, of presence of DOPE, and of concn. of nucleic acid in the mixt. were studied.

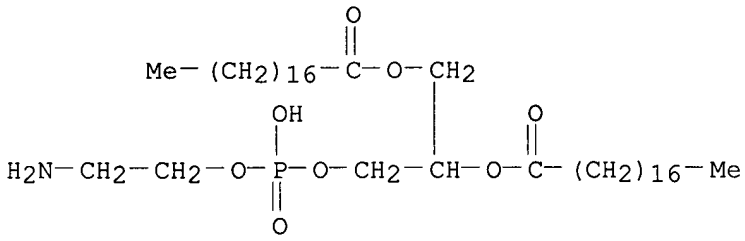
IT **2644-64-6 4537-76-2**, Distearoyl phosphatidylethanolamine

4539-70-2 18656-38-7
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(transfection compn. contg. lipopolyamines and; lipopolyamines as transfection agents and pharmaceutical uses thereof)

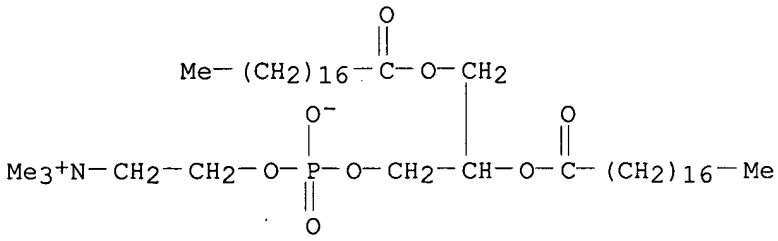
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



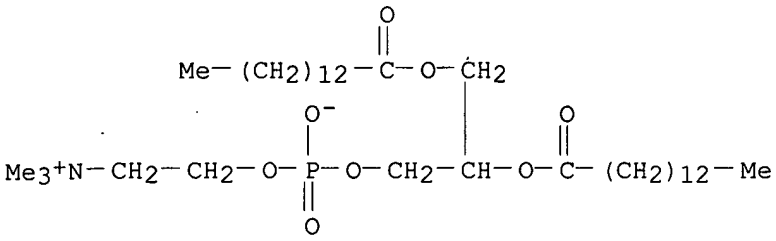
RN 4537-76-2 HCAPLUS
CN Octadecanoic acid, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 18656-38-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



IC ICM C07C237-06
ICS C07K005-06; A61K047-48; C12N015-87; C12N015-88; A61K048-00
CC 3-1 (Biochemical Genetics)
ST lipopolyamine cell transfection
IT Nucleic acids
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antisense; lipopolyamines as transfection agents and pharmaceutical uses thereof)
IT Gangliosides
Glycosphingolipids
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(asialogangliosides, transfection compn. contg. lipopolyamines and; lipopolyamines as transfection agents and pharmaceutical uses thereof)
IT Diglycerides
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(glycosyl-, transfection compn. contg. lipopolyamines and; lipopolyamines as transfection agents and pharmaceutical uses thereof)
IT Polyamines (nonpolymeric)
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(lipo-; lipopolyamines as transfection agents and pharmaceutical uses thereof)
IT **Gene therapy**
Transformation (genetic method)
(lipopolyamines as transfection agents and pharmaceutical uses thereof)
IT Lipids, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(neutral, transfection compn. contg. lipopolyamines and; lipopolyamines as transfection agents and pharmaceutical uses thereof)
IT Phosphoproteins
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(nucleolins, transfection compn. contg. lipopolyamines and; lipopolyamines as transfection agents and pharmaceutical uses thereof)
IT Cerebrosides
Diglycerides
Histones
Phosphatidylglycerols
Protamines
Sphingolipids
Sphingomyelins
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(transfection compn. contg. lipopolyamines and; lipopolyamines as transfection agents and pharmaceutical uses thereof)

IT 181821-41-0P 181821-44-3P 181821-46-5P 191156-68-0P 191156-69-1P
191156-70-4P 191156-71-5P 191156-72-6P 191156-73-7P 191156-74-8P
191156-75-9P 191156-76-0P 191156-77-1P 191156-78-2P 191156-79-3P
191156-80-6P 191156-81-7P 191156-82-8P 191156-83-9P 191156-84-0P
191156-85-1P 191156-86-2P 191156-87-3P 191156-88-4P 191156-89-5P
191156-90-8P 191156-91-9P 191156-92-0P 191236-75-6P
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(lipopolyamines as transfection agents and pharmaceutical uses thereof)

IT 58-85-5, Biotin 66-84-2, D(+)-Glucosamine hydrochloride 71-44-3, Spermine 112-99-2, Dioctadecylamine 124-40-3, Dimethylamine, reactions 506-32-1, Arachidonic acid 692-29-5, Succinic semialdehyde 1772-03-8 3007-31-6, Didodecylamine 4097-89-6, Tris(aminoethyl)amine 4530-20-5 5505-63-5, D-Mannose, 2-amino-2-deoxy-, hydrochloride 5910-75-8, Ditridecylamine 6404-29-1, BOC-6-aminocaproic acid 7144-08-3, Cholesteryl chloroformate 13574-13-5 17361-44-3, Ditetradecylamine 51219-19-3 54613-99-9 107347-53-5, Tetramethyl rhodamine isothiocyanate 131287-39-3 191157-05-8
RL: RCT (Reactant)
(lipopolyamines as transfection agents and pharmaceutical uses thereof)

IT 187979-04-0P 191108-03-9P 191108-04-0P 191108-07-3P 191108-08-4P
191156-93-1P 191156-94-2P 191156-95-3P 191156-96-4P 191156-97-5P
191156-98-6P 191157-00-3P 191157-03-6P 191157-75-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(lipopolyamines as transfection agents and pharmaceutical uses thereof)

IT 127769-97-5 127769-99-7
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(transfection compn. contg. lipopolyamines and peptides contg.; lipopolyamines as transfection agents and pharmaceutical uses thereof)

IT 1487-55-4 2462-63-7, DOPE **2644-64-6 4537-76-2**, Distearoyl phosphatidylethanolamine **4539-70-2** 5681-36-7, Dipalmitoyl phosphatidylethanolamine 10015-88-0, POPE **18656-38-7** 19600-01-2, GM2 20255-95-2, Dimyristoyl phosphatidylethanolamine 54285-58-4 55999-63-8 55999-64-9 66170-11-4 71012-19-6, AsialoGM1 85305-88-0 104499-84-5
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(transfection compn. contg. lipopolyamines and; lipopolyamines as transfection agents and pharmaceutical uses thereof)

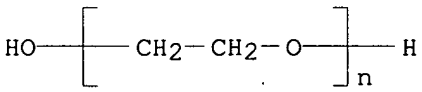
=> d ibib abs hitstr ind 18

L40 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:285140 HCAPLUS
DOCUMENT NUMBER: 127:9024
TITLE: A concentrated and stable aerosol formulation of cationic lipid:DNA complexes giving high-level gene expression in mouse lung
AUTHOR(S): Eastman, Simon J.; Lukason, Michael J.; Tousignant, Jennifer D.; Murray, Heather; Lane, Mathieu D.; St. George, Judith A.; Akita, Geoffrey Y.; Cherry, Maribeth; Cheng, Seng H.; Scheule, Ronald K.
CORPORATE SOURCE: Genzyme Corporation, Framingham, MA, 01701-9322, USA
SOURCE: Hum. Gene Ther. (1997), 8(6), 765-773
CODEN: HGTHE3; ISSN: 1043-0342
PUBLISHER: Liebert
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Advances in **gene therapy** vectors and techniques hold promise for treatment of many inherited and acquired diseases. For lung indications, esp. those involving the epithelium, delivery of the **gene therapy** vehicle ideally will involve the use of an aerosol. Aerosol delivery of transgenes using cationic lipids is currently limited by the ability to generate highly concd. formulations of lipid:DNA complexes that are stable and retain their activity following aerosolization. We have examd. many of the variables inherent in aerosolizing cationic lipid gene delivery vehicles and have devised a new formulation that incorporates small amts. of a polyethylene glycol-contg. lipid. This formulation has allowed the prepn. of concd. dispersions of cationic lipid:plasmid DNA (pDNA) complexes (>20 mM pDNA) at approx. 10-fold higher concns. than previously reported. Most of the pDNA in these formulations was bound to the lipid component and thereby protected from nebulizer-induced shearing; the pDNA also maintained full biol. activity both in vitro and in vivo. This new formulation thus represents a significant improvement over current methods to prep. concd., active cationic lipid gene delivery vectors, and provides a new tool with which to test gene transfer to the lung.

IT **25322-68-3D, PEG,** reaction products with **phospholipids 68737-67-7,** Dioleoylphosphatidylcholine
RL: BPR (Biological process); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(concd. and stable aerosol formulation of cationic lipid:DNA complexes giving high-level gene expression in mouse lung)

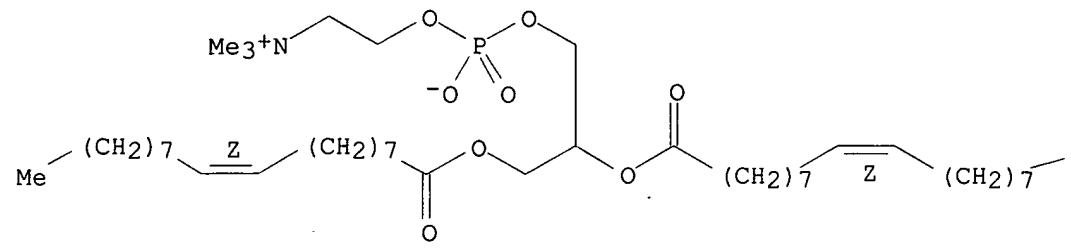
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 68737-67-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (18Z)-(9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

Me

CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 1
ST aerosol cationic lipid DNA complex gene
IT Plasmids
(DNA; concd. and stable aerosol formulation of cationic lipid:DNA complexes giving high-level gene expression in mouse lung)
IT DNA
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(complexes; concd. and stable aerosol formulation of cationic lipid:DNA complexes giving high-level gene expression in mouse lung)
IT Genetic vectors
Lung
Sprays (drug delivery systems)
Transformation (genetic)
(concd. and stable aerosol formulation of cationic lipid:DNA complexes giving high-level gene expression in mouse lung)
IT Polyoxyalkylenes, biological studies
RL: BPR (Biological process); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(reaction products with **phospholipids**; concd. and stable aerosol formulation of cationic lipid:DNA complexes giving high-level gene expression in mouse lung)
IT 2462-63-7, Dioleoylphosphatidylethanolamine 5681-36-7D, Dipalmitoylphosphatidylethanolamine, reaction products with **PEG** 6811-55-8, Dioleoylphosphatidylserine 20255-95-2D, Dimyristoylphosphatidylethanolamine, reaction products with **PEG** **25322-68-3D, PEG**, reaction products with **phospholipids** **68737-67-7**, Dioleoylphosphatidylcholine 179075-30-0 179075-44-6
RL: BPR (Biological process); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(concd. and stable aerosol formulation of cationic lipid:DNA complexes

giving high-level gene expression in mouse lung)

=> d ibib abs hitstr ind 19

L40 ANSWER 19 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:247860 HCAPLUS
DOCUMENT NUMBER: 126:229615
TITLE: Enhanced artificial viral envelopes for cellular delivery of therapeutic substances
INVENTOR(S): Conary, Jon T.; Schreier, Hans
PATENT ASSIGNEE(S): Advanced Therapies, Inc., USA; Conary, Jon T.; Schreier, Hans
SOURCE: PCT Int. Appl., 108 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9704748	A2	19970213	WO 1996-US12750	19960801
WO 9704748	A3	19970529		
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG				
AU 9666914	A1	19970226	AU 1996-66914	19960801

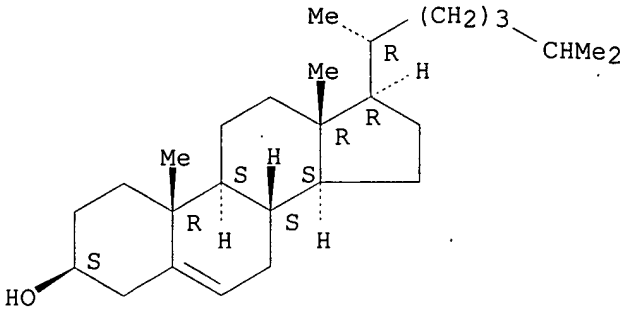
PRIORITY APPLN. INFO.:
US 1995-1738 19950801
US 1995-2580 19950821
US 1995-690613 19960731
US 1996-690613 19960731
WO 1996-US12750 19960801

AB This invention provides artificial viral envelopes and other lipid vesicles that encapsulate therapeutic substances, such as expression vectors, targeted to mammalian cells. Polynucleotides may be packed into the envelopes by compressing them beforehand with a short peptide with a predominant pos. charge. The compression step not only facilitates encapsulation, it also increases the no. of vesicles contg. nucleic acid, minimizes the amt. of free nucleic acid, and may also increase the size and complexity of plasmids that can be encapsulated. The vesicles may be provided with a tissue-targeting component that helps direct it towards certain tissue sites in an animal. The vesicles may also be provided with a fusogenic component that facilitates delivery of the therapeutic substance into the cell. The materials and reagents of this invention are effective, for example, in increasing expression of model proteins in both isolated cells and intact animals, and are expected to be useful for **gene therapy**.

IT **57-88-5**, Cholesterol, biological studies **26853-31-6**, Popc **137056-72-5**
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

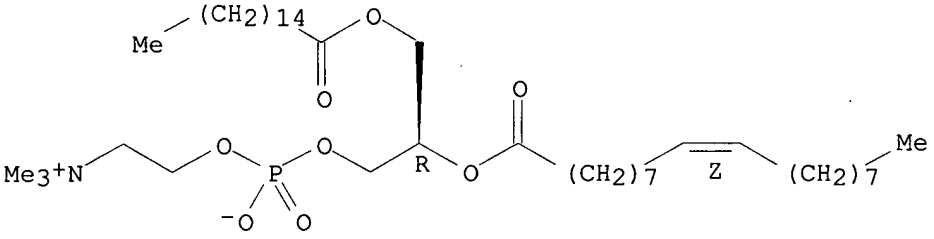
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



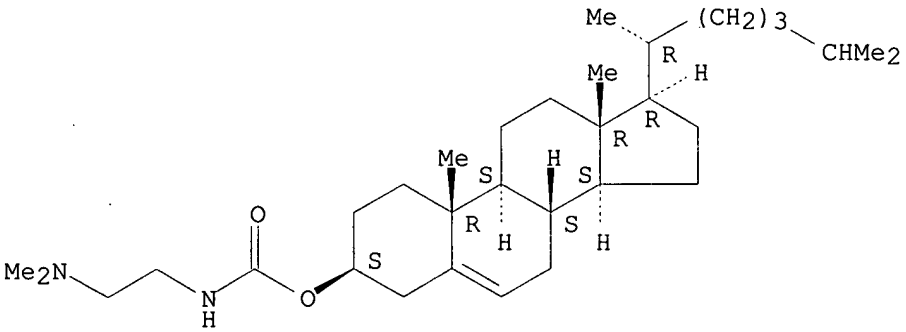
RN 26853-31-6 HCAPLUS
CN 3,5,8-Trioxa-4-phosphahexacos-17-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-9-oxo-7-[[(1-oxohexadecyl)oxy]methyl]-, inner salt, 4-oxide, (7R,17Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



RN 137056-72-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, [2-(dimethylamino)ethyl]carbamate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IC ICM A61K009-127
ICS C12N015-88
CC 63-5 (Pharmaceuticals)
ST virus envelope gene delivery therapy
IT Interferon .alpha.
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(DNA encoding; enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT Glycoproteins (specific proteins and subclasses)
RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(F; enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT Drug delivery systems
Gene therapy
Genetic vectors
Liposomes (drug delivery systems)
Plasmids
Protein sequences
Transformation (genetic)
cDNA sequences
(enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT Detergents
RL: NUU (Other use, unclassified); USES (Uses)
(enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT Glycoprotein G
RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT Phosphatidylcholines, biological studies
Phosphatidylethanolamines, biological studies
Phosphatidylserines
Phospholipids, biological studies
Polynucleotides
Proteins (general), biological studies
Reporter genes
Sphingomyelins
Toxins
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT Animal virus
(envelope of; enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT Rous sarcoma virus
(glycoproteins F and G of; enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT Influenza
(hemagglutinin peptide of; enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT Hemagglutinins
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(of influenza; enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT Lung epithelium
(targeting of; enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT 9040-07-7, Chloramphenicol acetyltransferase 9041-92-3, .alpha.1-Antitrypsin 59763-19-8, Prostaglandin G/H synthase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(DNA encoding; enhanced artificial viral envelopes for cellular

delivery of therapeutic substances)

IT 95088-49-6 156250-85-0 173287-84-8 173287-85-9 173287-86-0
173287-87-1 188135-90-2 188135-91-3
RL: BPR (Biological process); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT 188063-91-4
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT 188063-90-3P
RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT 50-67-9D, Serotonin, lipid derivs. **57-88-5**, Cholesterol, biological studies 361-09-1, Sodium cholate 2462-63-7, DOPE **26853-31-6**, Popc 128835-92-7, Lipofectin **137056-72-5**
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT 538-75-0, Dicyclohexylcarbodiimide 124763-02-6
RL: RCT (Reactant)
(enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

IT 139802-74-7, DNA (plasmid pCMV-AAT)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(nucleotide sequence; enhanced artificial viral envelopes for cellular delivery of therapeutic substances)

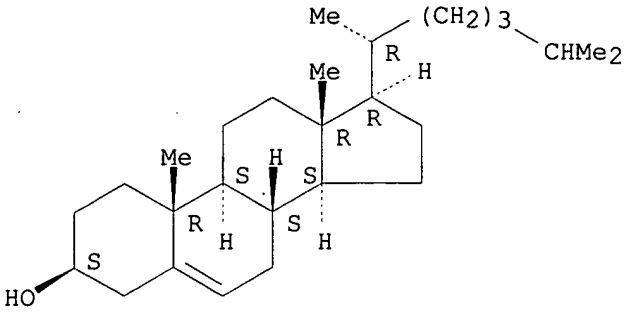
=> d ibib abs hitstr ind 20

L40 ANSWER 20 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:185198 HCAPLUS
DOCUMENT NUMBER: 126:272297
TITLE: Pulmonary surfactant inhibits cationic liposome-mediated gene delivery to respiratory epithelial cells in vitro
AUTHOR(S): Ducan, James E.; Whitsett, Jeffrey A.; Horowitz, Ann D.
CORPORATE SOURCE: Duke University School of Medicine, Durham, NC, 27710, USA
SOURCE: Hum. Gene Ther. (1997), 8(4), 431-438
CODEN: HGTHE3; ISSN: 1043-0342
PUBLISHER: Liebert
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Cationic lipid-mediated transfection of the alveolar epithelium in vivo will require exposure of plasmid DNA and cationic lipids to endogenous surfactant lipids and proteins in the alveolar space. Effects of pulmonary surfactant and of surfactant constituents on transfection in vitro of two respiratory epithelial cells lines (MLE-15 and H441) with a plasmid encoding the luciferase reporter gene were studied using two cationic lipid formulations: 1,2-dimyristyloxypropyl-3-dimethyl-hydroxyethyl ammonium bromide/cholesterol (DMRIE/C) and 1,2-dioleoyl-3-trimethylammonium propane/dioleoyl phosphatidylethanolamine (DOTAP/DOPE). Gene expression, as assessed luciferase activity, decreased as increasing concns. of natural surfactant were added to cationic lipid-DNA complexes. Incorporation of **phospholipids** DOPC/DOPG or surfactant proteins SP-B or SP-C in the cationic lipid formulation inhibited transfection. A fluorescent lipid mixing assay was used to det. the effects of surfactant proteins SP-B and SP-C on mixing between cationic lipid-DNA complexes and surfactant lipid vesicles. Mixing between DOPC/DOPG vesicles and cationic lipid-DNA complexes in the absence of added proteins amounted to 10-20%. Addn. of SP-B or SP-C increased the mixing of DOPC/DOPG vesicles with DOTAP/DOPE-DNA complexes, but not DMRIE/C-DNA complexes. These results demonstrate that pulmonary surfactant lipids and proteins inhibit transfection with cationic lipid-DNA complexes in vitro, and may therefore represent a barrier to gene transfer in the lung.

IT **10015-85-7**, Dioleoyl phosphatidylcholine
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study) (pulmonary surfactant and surfactant proteins inhibit cationic liposome-mediated gene delivery to respiratory epithelial cells in vitro)
RN 10015-85-7 HCAPLUS
IT **57-88-5**, Cholesterol, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (pulmonary surfactant and surfactant proteins inhibit cationic liposome-mediated gene delivery to respiratory epithelial cells in vitro)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



CC 1-12 (Pharmacology)
Section cross-reference(s): 63

ST lung surfactant gene delivery cationic liposome; respiratory epithelium gene delivery pulmonary surfactant

IT Airway epithelium
Gene therapy
Liposomes (drug delivery systems)
Plasmid vectors
Plasmids
Pulmonary surfactant
Transduction (genetic)
(pulmonary surfactant and surfactant proteins inhibit cationic liposome-mediated gene delivery to respiratory epithelial cells in vitro)

IT SP-B (surfactant protein)
SP-C (surfactant protein)
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(pulmonary surfactant and surfactant proteins inhibit cationic liposome-mediated gene delivery to respiratory epithelial cells in vitro)

IT Genes (animal)
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(pulmonary surfactant and surfactant proteins inhibit cationic liposome-mediated gene delivery to respiratory epithelial cells in vitro)

IT **10015-85-7**, Dioleoyl phosphatidylcholine 62700-69-0, Dioleoyl phosphatidylglycerol
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(pulmonary surfactant and surfactant proteins inhibit cationic liposome-mediated gene delivery to respiratory epithelial cells in vitro)

IT **57-88-5**, Cholesterol, biological studies 2462-63-7, Dioleoyl phosphatidylethanolamine 113669-21-9 153312-64-2
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pulmonary surfactant and surfactant proteins inhibit cationic liposome-mediated gene delivery to respiratory epithelial cells in vitro)

=> d ibib abs hitstr ind 21

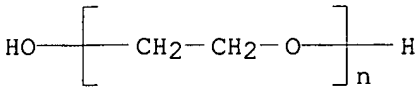
L40 ANSWER 21 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:124470 HCAPLUS
DOCUMENT NUMBER: 126:127874
TITLE: Liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their preparation
INVENTOR(S): Wheeler, Jeffery J.; Bally, Marcel B.; Zhang, Yuan-Peng; Reimer, Dorothy L.; Hope, Michael; Cullis, Pieter R.; Scherrer, Peter
PATENT ASSIGNEE(S): Inex Pharmaceuticals Corporation, Can.; Wheeler, Jeffery J.; Bally, Marcel B.; Zhang, Yuan-Peng; Reimer, Dorothy L.; Hope, Michael; Cullis, Pieter R.; Scherrer, Peter
SOURCE: PCT Int. Appl., 119 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9640964	A2	19961219	WO 1996-US9949	19960606
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA				
US 5705385	A	19980106	US 1995-485458	19950607
US 5981501	A	19991109	US 1995-484282	19950607
CA 2222328	AA	19961219	CA 1996-2222328	19960606
AU 9663307	A1	19961230	AU 1996-63307	19960606
AU 723163	B2	20000817		
EP 832271	A2	19980401	EP 1996-922432	19960606
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 11507537	T2	19990706	JP 1996-502106	19960606

PRIORITY APPLN. INFO.: US 1995-484282 A 19950607
US 1995-485458 A 19950607
WO 1996-US9949 W 19960606

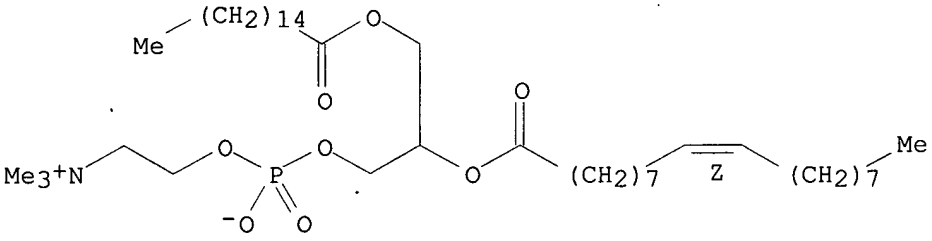
AB Novel nucleic acid-carrying liposomes useful for in vitro or in vivo gene transfer are described. These liposomes are easy to prep. as a reproducible and homogeneous sample, have a high capacity for DNA, are serum-stable, and protect DNA from intracellular degrdn. after uptake and can be formed using either detergent dialysis methods or methods which utilize org. solvents. Upon removal of a solubilizing component (i.e., detergent or an org. solvent) the lipid-nucleic acid complexes form particles wherein the nucleic acid is serum-stable and is protected from degrdn. Detergents with a CMC of 20-50 mM are used. The particles thus formed have access to extravascular sites and target cell populations and are suitable for the therapeutic delivery of nucleic acids. Optimization expts. for lipid compn. and serum stability are reported. Mice injected with a reporter plasmid carrying a CAT reporter gene incorporated into liposomes of the invention showed significant expression of the gene in spleen, liver and lung, with the level and duration of expression functions of lipid compn.

IT **25322-68-3D**, conjugates **26662-91-9**, Palmitoyl oleoyl phosphatidylcholine
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes contg.; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 26662-91-9 HCAPLUS
CN 3,5,8-Trioxa-4-phosphahexacos-17-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-9-oxo-7-[[(1-oxohexadecyl)oxy]methyl]-, inner salt, 4-oxide, (17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IC ICM C12N015-88
ICS A61K048-00; A61K009-127
CC 3-2 (Biochemical Genetics)
Section cross-reference(s): 1
ST liposome serum stable DNA; transformation serum stable liposome
IT Serum (blood)
(DNA-contg. liposomes stable in; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)
IT Polyoxyalkylenes, biological studies
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugates, liposomes contg.; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)
IT Plasmids
(incorporation into liposomes of; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)
IT DNA
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(incorporation into liposomes of; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)
IT Sphingomyelins
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL

(Biological study); USES (Uses)
(liposomes contg.; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)

IT Liposomes
(liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)

IT Liposomes
(multilamellar; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)

IT Transformation (genetic)
(of animal cells in vivo; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)

IT Ceramides
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(reaction products, with **PEG**, liposomes contg.; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)

IT Lipids, biological studies
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(serum, cationic and non-cationic, in prepn. liposomes for in vivo transformation; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)

IT **Gene therapy**
(serum-stable liposomes for; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)

IT 2390-68-3, DDAB 7212-69-3, Dimethyldioleylammonium chloride **25322-68-3D**, conjugates **26662-91-9**, Palmitoyl oleoyl phosphatidylcholine 29836-26-8, Octyl glucoside 104162-48-3, DOTMA 124050-77-7, Transfectam 153312-64-2, DMRIE 158571-62-1, Lipofectamine 168479-03-6, DOSPA
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes contg.; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)

IT 9003-98-9, DNase I
RL: MSC (Miscellaneous)
(resistance of liposome-encapsulated plasmids to; liposomes suitable for in vivo delivery of nucleic acids into mammalian cells and methods for their prepn.)

=> d ibib abs hitstr ind 22

L40 ANSWER 22 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:702155 HCAPLUS
DOCUMENT NUMBER: 123:93296
TITLE: Biochemically active agents for chemical catalysis and cell receptor activation
INVENTOR(S): Kossovsky, Nir; Sponsler, Edward; Gelman, Andrew; Hnatyszyn, H. James; Rajguru, Samir
PATENT ASSIGNEE(S): Regents of the University of California, USA
SOURCE: PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 10
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9512392	A1	19950511	WO 1994-US12515	19941031
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5460830	A	19951024	US 1993-145870	19931101
US 5462751	A	19951031	US 1993-146536	19931101
US 5460831	A	19951024	US 1993-147751	19931104
EP 726767	A1	19960821	EP 1995-901094	19941031
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 09504790	T2	19970513	JP 1994-513349	19941031

PRIORITY APPLN. INFO.:
US 1993-145870 19931101
US 1993-146536 19931101
US 1993-147751 19931104
US 1990-542255 19900622
US 1991-690601 19910424
US 1993-199 19930104
WO 1994-US12515 19941031

AB A biol. active compn. is made up of core particles or surfaces coated with a layer which is designed to allow attachment of biochem. reactive pairs (BRP's) without denaturing the BRP. BRPs which may be attached include ligand-receptor pairs, enzyme-substrate pairs, drug-receptor pairs, catalyst-reactant pairs, toxin-ligand pairs, absorbent-absorbate pairs, and adsorbent-adsorbate pairs. Also disclosed are biol. active compns. made up of biodegradable core particles coated with a layer that is designed to allow attachment of biol. active agents without denaturing them. The compns. may further include an exterior targeting membrane which provides selective targeting to specific receptors. Biol. active compns. for use in **gene therapy** and other transfection procedures are composed of nanocryst. core particles coated with a layer that is designed to allow attachment of transfection agents (DNA/RNA segments or antisense fragments) without denaturing them, and an exterior targeting membrane for selective targeting of the transfection agents to specific cell receptors.

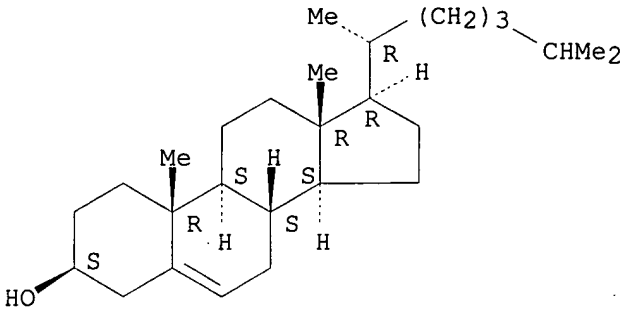
IT **9067-84-9**, Deaminase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene for; biochem. active agents for chem. catalysis and cell receptor activation)

RN 9067-84-9 HCAPLUS
CN Deaminase (9CI) (CA INDEX NAME)

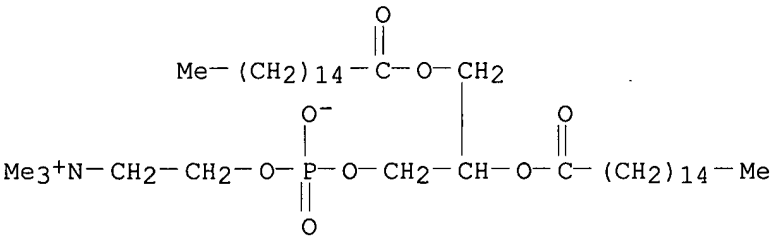
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **57-88-5**, Cholesterol, biological studies **2644-64-6**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(membrane contg.; biochem. active agents for chem. catalysis and cell receptor activation)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



IC ICM A61K009-54
ICS A61K009-56
CC 63-6 (Pharmaceuticals)
ST ligand receptor complex immobilization particle
IT Absorbents
(-absorbate complexes; biochem. active agents for chem. catalysis and cell receptor activation)
IT Adsorbents
(-adsorbate complexes; biochem. active agents for chem. catalysis and cell receptor activation)
IT Toxins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(-ligand complexes; biochem. active agents for chem. catalysis and cell receptor activation)
IT Catalysts and Catalysis
(-reactant complexes; biochem. active agents for chem. catalysis and cell receptor activation)
IT Antibiotics
(-receptor complexes; biochem. active agents for chem. catalysis and cell receptor activation)
IT Agglutinins and Lectins
Hormones

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(-receptor complexes; biochem. active agents for chem. catalysis and cell receptor activation)

IT Enzymes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(-substrate complexes; biochem. active agents for chem. catalysis and cell receptor activation)

IT Adsorption
Ceramic materials and wares
Immobilization, biochemical
Particles
Transformation, genetic
(biochem. active agents for chem. catalysis and cell receptor activation)

IT Albumins, biological studies
Alloys, biological studies
Deoxyribonucleic acids
Glass, oxide
Hemoglobins
Hemoglobins, carbonyl-
Immune complexes
Intermetallic compounds
Metals, biological studies
Polymers, biological studies
Ribonucleic acids
Transferrins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(biochem. active agents for chem. catalysis and cell receptor activation)

IT Biodegradable materials
(ceramics and polymers; biochem. active agents for chem. catalysis and cell receptor activation)

IT **Phospholipids**, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(coatings; biochem. active agents for chem. catalysis and cell receptor activation)

IT Proteins, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(complexes with carboxypeptidase A; biochem. active agents for chem. catalysis and cell receptor activation)

IT Opioid receptors
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(complexes with methadone; biochem. active agents for chem. catalysis and cell receptor activation)

IT Gene, animal
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(for deaminase; biochem. active agents for chem. catalysis and cell receptor activation)

IT Receptors
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ligand complexes; biochem. active agents for chem. catalysis and cell receptor activation)

IT Virus, animal
(proteins; biochem. active agents for chem. catalysis and cell receptor activation)

IT Ligands
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(receptor complexes; biochem. active agents for chem. catalysis and cell receptor activation)

IT Carboxyl group

(terminal, of proteins, complexes with carboxypeptidase A; biochem. active agents for chem. catalysis and cell receptor activation)

IT Virus, animal
(Epstein-Barr, biochem. active agents for chem. catalysis and cell receptor activation)

IT Receptors
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(adrenergic, complexes with epinephrine; biochem. active agents for chem. catalysis and cell receptor activation)

IT Ribonucleic acids
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(complexes, with RNase; biochem. active agents for chem. catalysis and cell receptor activation)

IT Therapeutics
(geno-, biochem. active agents for chem. catalysis and cell receptor activation)

IT Receptors
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(glycinergic, complexes with strychnine; biochem. active agents for chem. catalysis and cell receptor activation)

IT Lipoproteins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(high-d., -receptor complexes; biochem. active agents for chem. catalysis and cell receptor activation)

IT Virus, animal
(human immunodeficiency 1, biochem. active agents for chem. catalysis and cell receptor activation)

IT Lipoproteins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(low-d., biochem. active agents for chem. catalysis and cell receptor activation)

IT Virus, animal
(murine lymphotropic, biochem. active agents for chem. catalysis and cell receptor activation)

IT Receptors
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(opioid, complexes with methadone; biochem. active agents for chem. catalysis and cell receptor activation)

IT Pharmaceutical dosage forms
(particles, biochem. active agents for chem. catalysis and cell receptor activation)

IT Receptors
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmaceutical, biochem. active agents for chem. catalysis and cell receptor activation)

IT Proteins, specific or class
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ribosomal, -receptor complexes; biochem. active agents for chem. catalysis and cell receptor activation)

IT 9001-99-4, RNase
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(RNA complexes; biochem. active agents for chem. catalysis and cell receptor activation)

IT 51-43-4D, Epinephrine, complexes with adrenergic receptors 51-84-3D, Acetylcholine, complexes with acetylcholinesterase 57-24-9D, Strychnine, complexes with glycine receptors 58-68-4D, NADH, complexes with NADH-ubiquinone reductase 70-18-8D, Glutathione, complexes with glutathione reductase 76-99-3D, Methadone, complexes with opioid receptors 7723-14-0D, Phosphorus, org. compds., complexes with acetylcholinesterase 9000-81-1D, Acetylcholinesterase, complexes with

acetylcholine and organophosphorus compds. 9001-48-3D, Glutathione reductase, complexes with glutathione 9001-63-2D, Lysozyme, chitin complexes 9028-04-0D, NADH-ubiquinone reductase, NADH complexes 9031-98-5D, Carboxypeptidase, protein complexes 11075-17-5D, Carboxypeptidase A, protein carboxyl group complexes 33069-62-4, Taxol 37259-58-8D, Serine proteinase, protein complexes 37353-41-6D, Cysteine proteinase, protein complexes 54651-57-9, Hemoglobin A0
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(biochem. active agents for chem. catalysis and cell receptor activation)

IT 54-47-7, Pyridoxal 5-phosphate 77-92-9, Citric acid, biological studies 528-50-7, Cellobiose
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(coatings contg.; biochem. active agents for chem. catalysis and cell receptor activation)

IT **9067-84-9**, Deaminase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene for; biochem. active agents for chem. catalysis and cell receptor activation)

IT 9004-10-8, Insulin, biological studies 9015-82-1, Angiotensin-converting enzyme
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(immobilization; biochem. active agents for chem. catalysis and cell receptor activation)

IT 1398-61-4, Chitin
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(lysozyme complexes; biochem. active agents for chem. catalysis and cell receptor activation)

IT **57-88-5**, Cholesterol, biological studies **2644-64-6** 3036-82-6, Dipalmitoylphosphatidylserine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(membrane contg.; biochem. active agents for chem. catalysis and cell receptor activation)

IT 1332-29-2, Tin oxide 7631-86-9, Silicon dioxide, biological studies 11113-84-1, Ruthenium oxide
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nanocryst. particles; biochem. active agents for chem. catalysis and cell receptor activation)

IT 7440-44-0, Carbon, biological studies 7782-40-3, Diamond, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nanoparticles; biochem. active agents for chem. catalysis and cell receptor activation)

IT 1315-09-9, Zinc selenide 7758-87-4, Tricalcium phosphate 14567-92-1, Brushite
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(particles; biochem. active agents for chem. catalysis and cell receptor activation)

IT 81669-70-7D, Metalloproteinase, protein complexes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(zinc-dependent; biochem. active agents for chem. catalysis and cell receptor activation)

=> d ibib abs hitstr ind 23

L40 ANSWER 23 OF 23 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:382642 HCAPLUS
DOCUMENT NUMBER: 122:170185
TITLE: Liposome-mediated delivery of therapeutic agents to hair follicles
INVENTOR(S): Li, Lingna; Lishko, Valeryi K.
PATENT ASSIGNEE(S): Anticancer, Inc., USA
SOURCE: PCT Int. Appl., 100 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9422468	A1	19941013	WO 1994-US3634	19940401
W: AU, CA, CN, JP, KR, US, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5641508	A	19970624	US 1994-181471	19940113
CA 2159626	AA	19941013	CA 1994-2159626	19940401
AU 9465545	A1	19941024	AU 1994-65545	19940401
EP 692972	A1	19960124	EP 1994-913349	19940401
EP 692972	B1	20011205		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08511510	T2	19961203	JP 1994-522428	19940401
JP 2950520	B2	19990920		
AT 209887	E	20011215	AT 1994-913349	19940401
US 5914126	A	19990622	US 1997-858469	19970520
US 5965157	A	19991012	US 1997-858970	19970520
US 6224901	B1	20010501	US 1997-858929	19970520
US 6261596	B1	20010717	US 1999-316763	19990521

PRIORITY APPLN. INFO.:
US 1993-41553 A 19930402
US 1994-181471 A 19940113
WO 1994-US3634 W 19940401
US 1995-486520 A3 19950607
US 1997-858970 A1 19970520

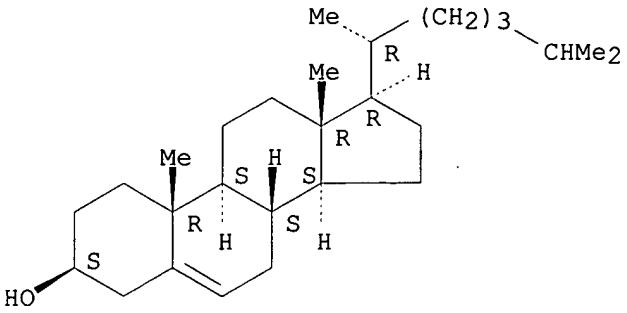
AB A method for targeted and specific delivery of beneficial compds., including hair dyes, melanin, proteins, and nucleic acids for **gene therapy**, to hair follicle cells using liposomes contg. the beneficial compd. are described. Particularly preferred methods describe delivery of hair dyes, melanin or tyrosinase to the hair follicle for the purpose of improving hair color or condition, either by encapsulating the compd. in liposomes, or by encapsulating a nucleic acid capable of expressing the protein in liposomes. Suitable **phospholipid** -based liposome compns. are described. Using a cultured skin model that retained normal hair follicle function, the use of liposomes to deliver a dye and melanin to hair follicles was demonstrated. The liposome-mediated delivery of a human tyrosinase gene to mouse hair follicle cells was also demonstrated. Tyrosinase could be detected by activity and immunochem.

IT **57-88-5**, Cholest-5-en-3-ol (3.beta.)-, biological studies
63-89-8, Dipalmitoylphosphatidylcholine **4235-95-4**, DOPC
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(liposomes contg.; liposome-mediated delivery of therapeutic agents to hair follicles)

RN 57-88-5 HCAPLUS

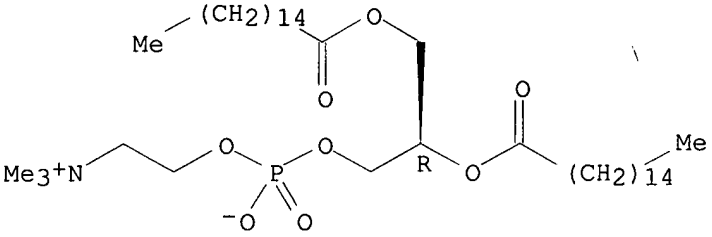
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 63-89-8 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

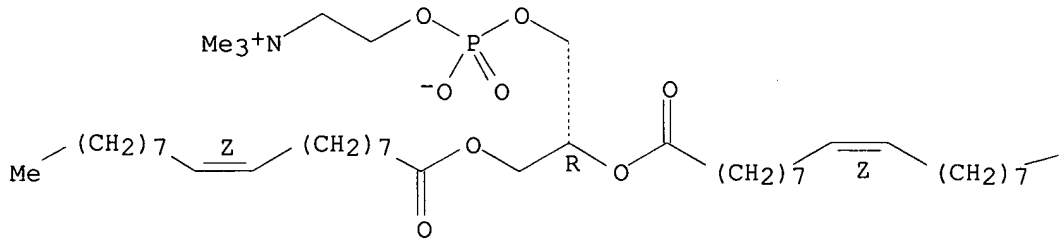
Absolute stereochemistry. Rotation (+).



RN 4235-95-4 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacos-18-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecenyl]oxy]-, inner salt, 4-oxide, (7R,18Z)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



Me

IC ICM A61K037-22
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 3, 64
ST hair follicle liposome delivery therapeutics; **gene therapy** hair follicle liposome
IT **Phospholipids**, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(cationic, liposomes contg.; liposome-mediated delivery of therapeutic agents to hair follicles)
IT Alopecia
(chemotherapy-induced, prevention or treatment of; liposome-mediated delivery of therapeutic agents to hair follicles)
IT Gene, animal
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(for tyrosinase or transforming growth factor .alpha., liposome-mediated introduction into hair follicle cells of; liposome-mediated delivery of therapeutic agents to hair follicles)
IT Liposome
(liposome-mediated delivery of therapeutic agents to hair follicles)
IT Melanins
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(liposome-mediated delivery of therapeutic agents to hair follicles)
IT Phosphatidylcholines, biological studies
Phosphatidylethanolamines
Phospholipids, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(liposomes contg.; liposome-mediated delivery of therapeutic agents to hair follicles)
IT Gene, animal
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(MDR1, liposome-mediated introduction into hair follicle cells of; liposome-mediated delivery of therapeutic agents to hair follicles)
IT Glycophosphoproteins
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(P-, gene mdr1, liposome-mediated delivery to hair follicles of gene for; liposome-mediated delivery of therapeutic agents to hair follicles)
IT Therapeutics
(chemo-, improving resistance of hair follicles to, introduction of MDR1 gene in; liposome-mediated delivery of therapeutic agents to hair follicles)
IT Deoxyribonucleic acids
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(complementary, antisense, liposome-mediated delivery of therapeutic agents to hair follicles)

IT Hair preparations
(dyes, liposome-mediated delivery of therapeutic agents to hair follicles)

IT Hair
(follicle, liposome-mediated delivery of therapeutic agents to hair follicles)

IT Therapeutics
(geno-, of hair follicles; liposome-mediated delivery of therapeutic agents to hair follicles)

IT Animal growth regulators
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(.alpha.-transforming growth factors, liposome-mediated delivery to hair follicles of gene for; liposome-mediated delivery of therapeutic agents to hair follicles)

IT 107121-03-9, Glycoprotein (human clone .lambda.HDR10/.lambda.HDR5/.lambda. HDR104 gene mdr1 protein moiety reduced) 138392-07-1 161076-76-2, Transforming growth factor .alpha. (human)
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(amino acid sequence, expression in hair follicles of gene for; liposome-mediated delivery of therapeutic agents to hair follicles)

IT 1461-15-0, Calcein
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(liposome-mediated delivery of therapeutic agents to hair follicles)

IT 9002-10-2, Tyrosinase
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(liposome-mediated delivery to hair follicles of gene for; liposome-mediated delivery of therapeutic agents to hair follicles)

IT **57-88-5**, Cholest-5-en-3-ol (3.beta.)-, biological studies
63-89-8, Dipalmitoylphosphatidylcholine 2462-63-7, DOPE
4235-95-4, DOPC 41085-99-8, D 282 53213-83-5 84109-08-0
161338-37-0 161338-38-1 161338-40-5
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(liposomes contg.; liposome-mediated delivery of therapeutic agents to hair follicles)

IT 139812-83-2 140287-42-9 140746-15-2
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(nucleotide sequence, delivery to and expression in hair follicles of; liposome-mediated delivery of therapeutic agents to hair follicles)

=> d ibib abs hitstr 1

L45 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:10674 HCAPLUS
DOCUMENT NUMBER: 136:65207
TITLE: Method for transfecting cells using a magnetic field
INVENTOR(S): Plank, Christian; Bergemann, Christian
PATENT ASSIGNEE(S): Germany
SOURCE: PCT Int. Appl., 125 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002000870	A2	20020103	WO 2001-EP7261	20010626

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: EP 2000-113083 A 20000626
US 2000-214286 P 20000626

AB Described is a method of cell transformation by using a complex comprising vector(s) and magnetic particle(s) in contact with the cell, and by applying a magnetic field. The methods for prepn. of the complex is presented. Finally, pharmaceutical compns., uses in such complexes and a kit are described. The developed method is particularly useful when automation of high-throughput transfection is required for large scale screening processes.

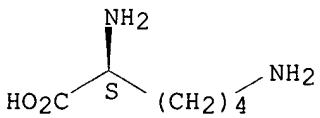
IT **25104-18-1**, Polylysine
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(magnetic field cell transformation method for large scale screening processes)

RN 25104-18-1 HCAPLUS
CN L-Lysine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 56-87-1
CMF C6 H14 N2 O2
CDES 5:L

Absolute stereochemistry.



IT **9002-98-6**
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST

(Analytical study); BIOL (Biological study); USES (Uses)
(magnetic particles coupled with; magnetic field cell transformation method for large scale screening processes)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

=> d ibib abs hitstr 2

L45 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:816421 HCAPLUS
DOCUMENT NUMBER: 135:348931
TITLE: **Liposomes** for the encapsulation of drugs, **contrast agents** and other substances
INVENTOR(S): Ebert, Juergen; Berger, Gerd
PATENT ASSIGNEE(S): Pharmacept G.m.b.H., Germany
SOURCE: PCT Int. Appl., 12 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001082892	A2	20011108	WO 2001-EP4900	20010502

W: AU, CA, CN, CZ, HU, JP, PL, RU, UA, US, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR

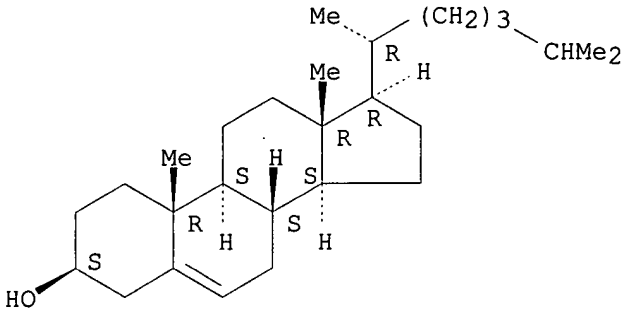
PRIORITY APPLN. INFO.: DE 2000-10021030 A 20000502

AB The invention relates to **liposomally** encapsulated active substances, which are characterized in that the active substance(s) is/are encapsulated in a proportion of 1 wt. to 90 wt. with regard to the amt. of active substances used. These active substances are particularly well-suited for treating tumors, as food supplements, for producing contrast media for **imaging** methods and for producing diagnostic agents for diseases. Thus hydrated egg phosphatidylcholine (50 mg/mL), **cholesterol** (24.8 g/mL) and polyethylene glycol (5.4 mg/mL) were dissolved in chloroform and the solvent was evapd. The dryed lipid film was resuspended in a soln. of 5-fluorouracil and shaken for 24 h; the formed multilayer vesicles (**MLV**) were treated with ultrasound and centrifuged. The encapsulated drug was used with or without **starch** microspheres as injection for the treatment of tumors.

IT **57-88-5, Cholesterol**, biological studies
9005-25-8, Starch, biological studies **25322-68-3**
, Polyethyleneglycol **41575-94-4**, Carboplatin
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**liposomes** for encapsulation of drugs, **contrast agents** and other substances)

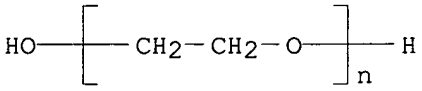
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

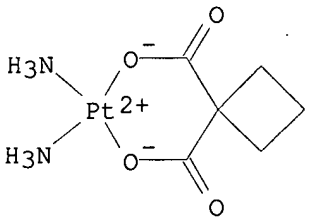


RN 9005-25-8 HCAPLUS
CN Starch (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 41575-94-4 HCAPLUS
CN Platinum, diammine[1,1-cyclobutanedi(carboxylato-.kappa.O)(2-)]-, (SP-4-2)- (9CI) (CA INDEX NAME)



=> d ibib abs hitstr 3

L45 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:501150 HCAPLUS
DOCUMENT NUMBER: 129:166204
TITLE: Pharmaceutical preparation comprising coated capsules or tablets containing a **liposome** powder encapsulating a drug
INVENTOR(S): Garces Garces, Josep; Bonilla Munoz, Angel; Parente Duena, Antonio
PATENT ASSIGNEE(S): Lipotec, S.A., Spain
SOURCE: Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

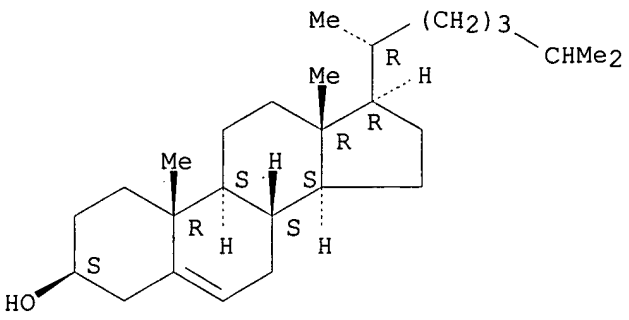
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 855179	A2	19980729	EP 1997-500231	19971231
EP 855179	A3	19990324		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
ES 2130056	A1	19990616	ES 1997-73	19970116
ES 2130056	B1	20000201		
JP 10203964	A2	19980804	JP 1998-5926	19980114

PRIORITY APPLN. INFO.: ES 1997-73 19970116

AB A new pharmaceutical prepn. to improve the oral bioavailability of difficult-to-absorb drugs comprising capsules or tablets coated with enteric material contg. a freeze-dried or evapd. **liposome** powder incorporating a drug of pharmacol. benefit. A mixt. of 800 mg **cholesterol** and 800 mg hydrogenated lecithin was added to 1.25 g nimesulide (I) and heated at 60.degree. to obtain a suspension of **liposomes** incorporating I. The resulting **liposome** suspension was frozen and freeze-dried to obtain a freeze-dried prepn. which was placed in hard **gelatin** capsules (114 mg in each capsule). The resulting capsules were coated with Eudragit L by repeated immersion in a soln. of enteric polymer in isopropanol and subsequent drying in a current of air. The blood level of I in volunteers after 5 h was 7.31 as compared with 2.69 .mu.g/mL.

IT **57-88-5, Cholesterol**, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmaceutical prepn. comprising coated capsules or tablets contg. **liposome** powder encapsulating drug)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.


Me
(CH2)3
CHMe2
R
H
Me
R
R
Me
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H
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HO

=> d ibib abs hitstr 1-4

L46 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:816421 HCAPLUS
DOCUMENT NUMBER: 135:348931
TITLE: **Liposomes** for the encapsulation of drugs, **contrast** agents and other substances
INVENTOR(S): Ebert, Juergen; Berger, Gerd
PATENT ASSIGNEE(S): Pharmacept G.m.b.H., Germany
SOURCE: PCT Int. Appl., 12 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001082892	A2	20011108	WO 2001-EP4900	20010502

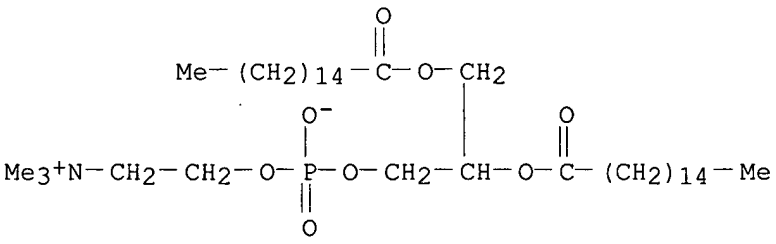
W: AU, CA, CN, CZ, HU, JP, PL, RU, UA, US, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR

PRIORITY APPLN. INFO.: DE 2000-10021030 A 20000502

AB The invention relates to **liposomally** encapsulated active substances, which are characterized in that the active substance(s) is/are encapsulated in a proportion of 1 wt. to 90 wt. with regard to the amt. of active substances used. These active substances are particularly well-suited for treating tumors, as food supplements, for producing **contrast** media for **imaging** methods and for producing diagnostic agents for diseases. Thus hydrated egg phosphatidylcholine (50 mg/mL), cholesterol (24.8 g/mL) and polyethylene glycol (5.4 mg/mL) were dissolved in chloroform and the solvent was evapd. The dryed lipid film was resuspended in a soln. of 5-fluorouracil and shaken for 24 h; the formed multilayer vesicles (MLV) were treated with ultrasound and centrifuged. The encapsulated drug was used with or without **starch** microspheres as injection for the treatment of tumors.

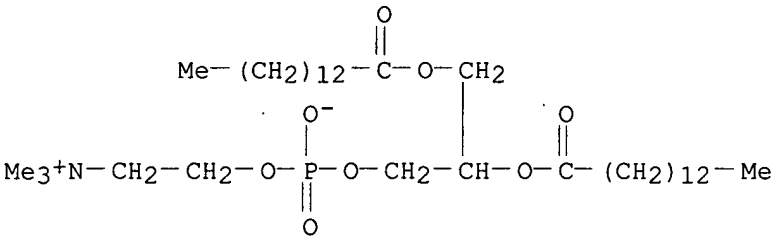
IT **2644-64-6**, Dipalmitoylphosphatidylcholine **18656-38-7**, Dimyristoylphosphatidylcholine
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**liposomes** for encapsulation of drugs, **contrast** agents and other substances)

RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 18656-38-7 HCAPLUS

CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



L46 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:145150 HCAPLUS
DOCUMENT NUMBER: 134:183511
TITLE: Stabilized gas emulsions containing phospholipid for ultrasound contrast enhancement
INVENTOR(S): Kabalnov, Alexey; Schutt, Ernest G.; Weers, Jeffry G.
PATENT ASSIGNEE(S): Alliance Pharmaceutical Corp., USA
SOURCE: U.S., 25 pp., Cont.-in-part of U.S. 5,804,162.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6193952	B1	20010227	US 1998-973281	19980209
US 5804162	A	19980908	US 1995-479621	19950607
WO 9640281	A2	19961219	WO 1996-US9068	19960605
WO 9640281	A3	19970313		
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA				
EP 1174153	A2	20020123	EP 2001-119824	19960605
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1995-479621 A2 19950607
WO 1996-US9068 W 19960605
EP 1996-918164 A3 19960605

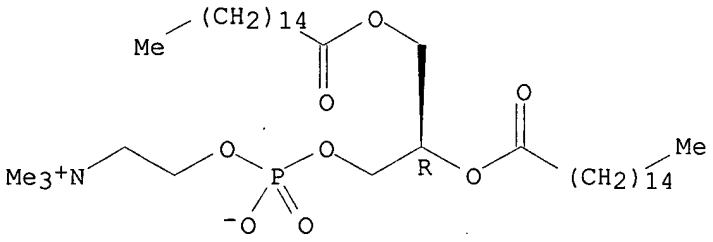
AB Disclosed is a gas emulsion for ultrasound contrast enhancement comprising a plurality of gas bubbles in a liq. medium where the gas bubbles comprise at least one fluoroether selected from the group consisting of CF3OCF2OCF3, CF3(OCF2)2OCF3, CF3(OCF2)3OCF3, and CF3(OCF2)4OCF3. A method for forming a gas emulsion comprises the steps of: providing a container having therein a structural material defining a plurality of voids, a surfactant and a gas or gas mixt. contg. a fluoroether dispersed in the voids; adding an aq. liq. to the container; and admixing the structural material, the surfactants and the aq. liq., thereby forming a gas emulsion in the container. The gas emulsion comprises bubbles of the gas or gas mixt. surrounded by a layer of the surfactant. A gas emulsion was prepd. by (1) suspending Freon-113 in a soln. contg. Poloxamer-188, Ryoto ester

S-1670, and Ryoto ester S-570; (2) adding the obtained emulsion to a soln. contg. hydroxyethyl **starch**, NaCl, Na2HPO4, and NaH2PO4; (3) spray-drying the mixt.; (4) sparging aliquots of the powder with perfluorodiglyme-satd. nitrogen in a vial; and (5) reconstituting the vial with water to form bubbles.

IT **63-89-8**, Dipalmitoyl phosphatidylcholine **18194-24-6**, Dimyristoyl phosphatidylcholine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(stabilized gas emulsions contg. phospholipid for ultrasound contrast enhancement)

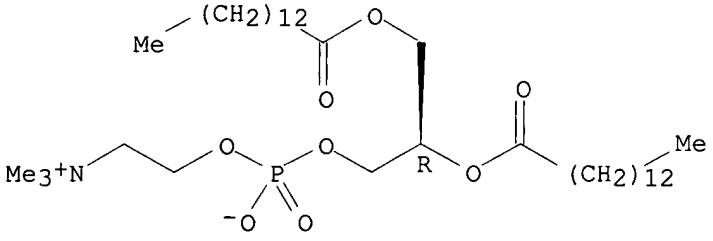
RN 63-89-8 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 18194-24-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 109 THERE ARE 109 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:672544 HCAPLUS
DOCUMENT NUMBER: 131:276955
TITLE: Use of particulate contrast agents in diagnostic imaging for studying physiological parameters
INVENTOR(S): Fossheim, Sigrid Lise; Klaveness, Jo; Bjornerud, Atle; Rongved, Pal; Golman, Klaes; Skurtveit, Roald
PATENT ASSIGNEE(S): Nycomed Imaging A/S, Norway; Cockbain, Julian
SOURCE: PCT Int. Appl., 99 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9952505	A1	19991021	WO 1999-GB1100	19990409
W: AE, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9934329	A1	19991101	AU 1999-34329	19990409
EP 1069888	A1	20010124	EP 1999-915906	19990409
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.:

GB 1998-7840	A	19980409
GB 1998-28874	A	19981231
US 1999-119808	P	19990212
WO 1999-GB1100	W	19990409

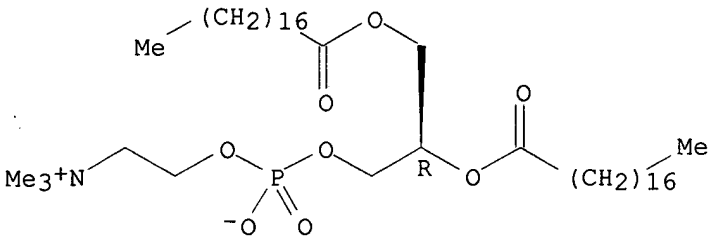
AB The present invention relates to a method of imaging of an animate human or non-human animal body, which method comprises: administering parenterally to said body a particulate material comprising a matrix or membrane material and at least one contrast generating species, which matrix or membrane material is responsive to a pre-selected physiol. parameter whereby to alter the contrast efficacy of said species in response to a change in the value of said parameters; generating image data of at least part of said body in which said species is present; and generating therefrom a signal indicative of the value or variation of said parameter in said part of said body. The invention also relates to contrast media for imaging a physiol. parameter.

IT **816-94-4**, Distearoylphosphatidyl choline **2644-64-6**, DPPC **2644-64-6D**, Dipalmitoylphosphatidylcholine, PEG conjugates **4539-70-2**, Distearoyl phosphatidyl choline **64792-89-8**, Dibehenoylphosphatidylcholine
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(use of particulate contrast agents in diagnostic imaging for studying physiol. parameters)

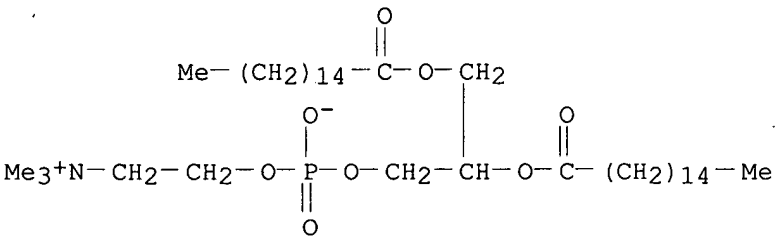
RN 816-94-4 HCAPLUS

CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

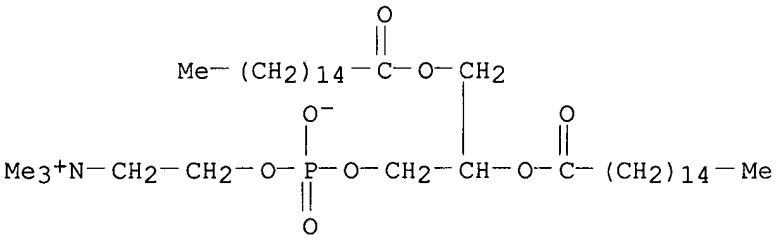
Absolute stereochemistry.



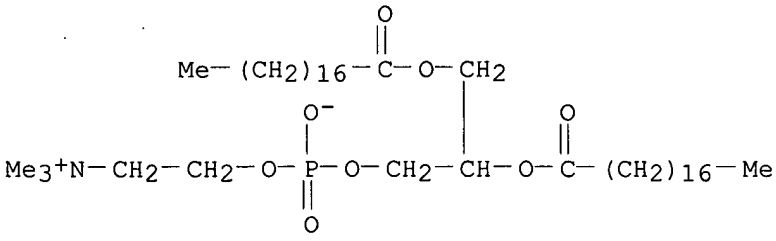
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



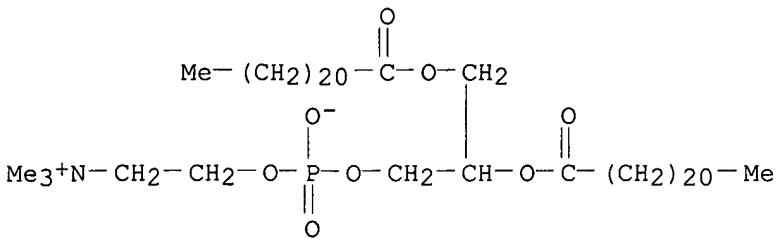
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RN 64792-89-8 HCAPLUS
CN 3,5,9-Trioxa-4-phosphahentriacontan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxodocosyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:194715 HCAPLUS
DOCUMENT NUMBER: 112:194715
TITLE: NMR and ESR study of liposome delivery of manganese to murine liver
AUTHOR(S): Bacic, G.; Niesman, M. R.; Magin, R. L.; Swartz, H. M.
CORPORATE SOURCE: Coll. Med., Univ. Illinois, Urbana, IL, 61801, USA
SOURCE: Magn. Reson. Med. (1990), 13(1), 44-61
CODEN: MRMEEN; ISSN: 0740-3194
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The mechanism of tissue relaxation of **liposome**-delivered Mn2+ as a **contrast** agent for magnetic **imaging** (MRI) was examd. using magnetic resonance and ESR techniques. It is known that **liposomes** of the size and compn. used in this study are taken up by fixed liver macrophages (Kupffer cells). Mn2+ must be released from the **liposomes** in order to affect the water proton relaxation rate in the liver. As long as the Mn2+ was confined to the Kupffer cells, no substantial changes in the relaxation of the majority of the liver water were obsd. Unlike other **contrast** agents delivered to the Kupffer cells (for example, Gd-**starch** microspheres or magnetite), once the Mn2+ is delivered and released into the Kupffer cells, it can diffuse from the Kupffer cells and be rapidly taken up by the hepatocytes. This seems to be the mechanism for selective relaxation enhancement in the liver. A consequence of this behavior is that the time at which max. **contrast** enhancement occurs for MRI can be varied by the choice of **liposome** phospholipid compn. ESR techniques were used to directly det. the state of Mn2+ and the integrity of **liposomes** in various stages of processing.

IT **13699-48-4 2644-64-6**
RL: ANST (Analytical study)
(liposomes contg., manganese encapsulated in, for liver proton relaxation studies, liposome compn. in relation to)
RN 13699-48-4 HCAPLUS
RN 2644-64-6 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)